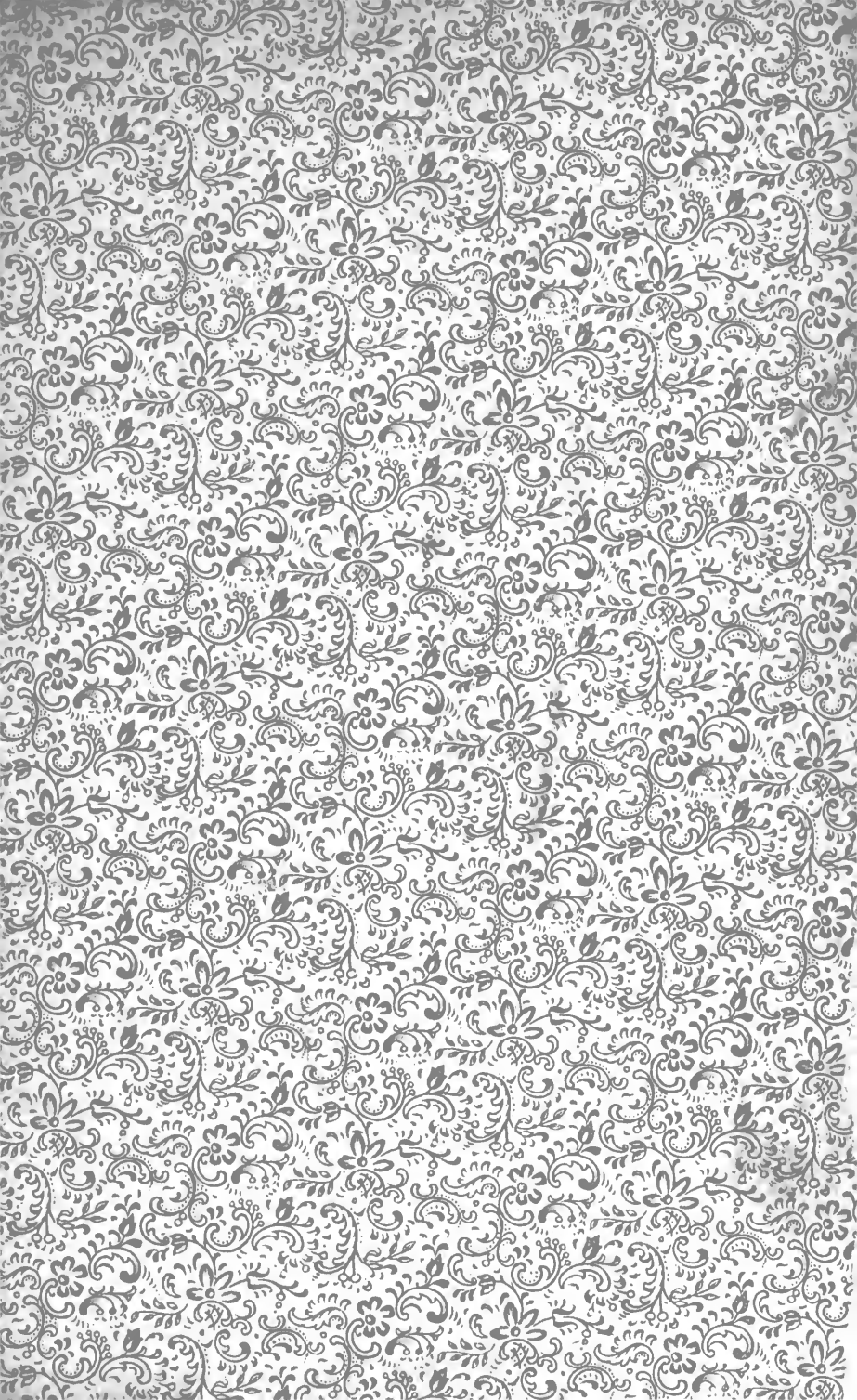


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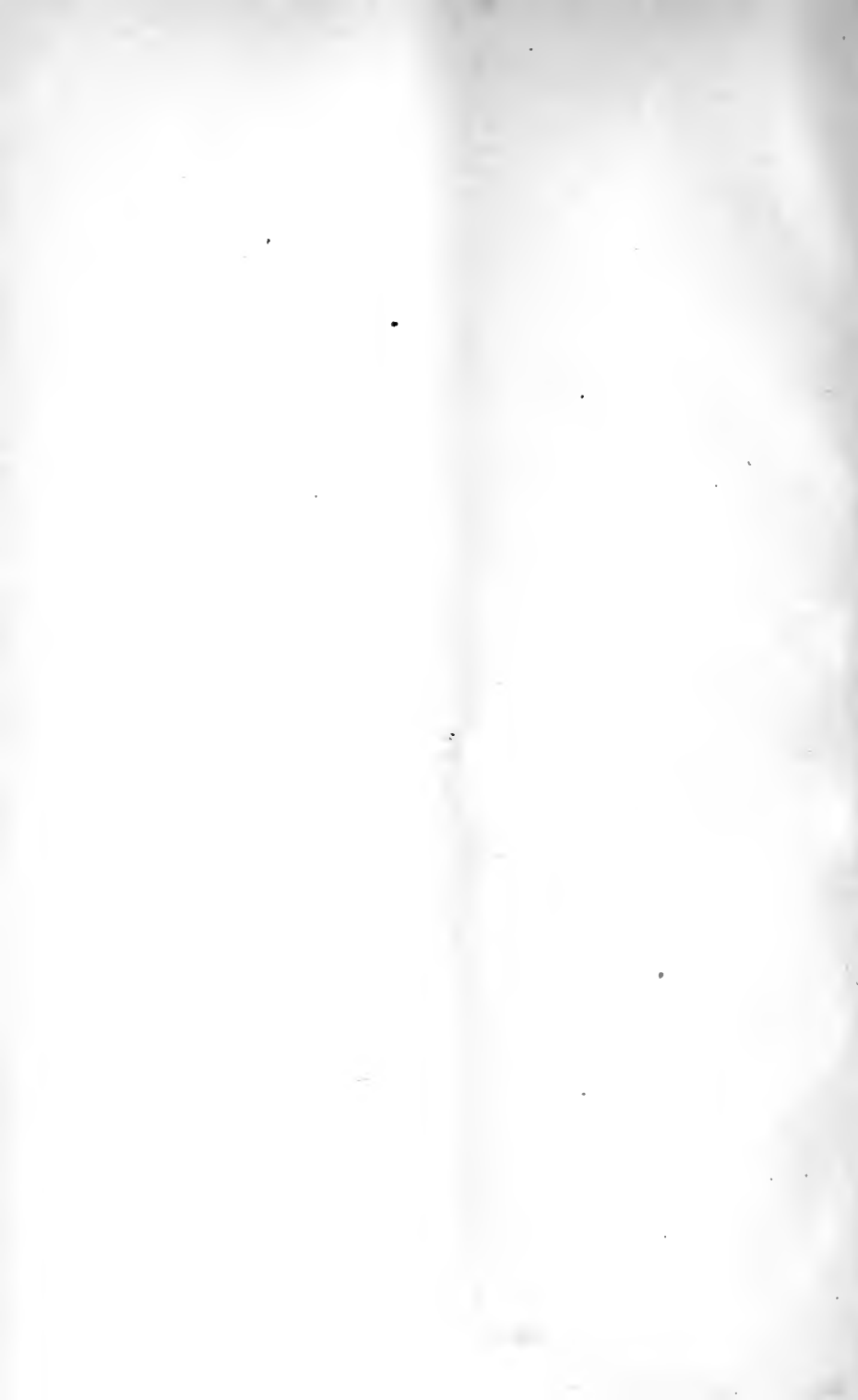
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ORIGINAL COMMUNICATIONS.

GUNSHOT WOUND OF ABDOMEN TREATED BY OPEN- ING CAVITY AND SUTURING INTESTINES.

Read before the South Carolina State Medical Association by R. A.

KINLOCH, M.D., Professor of Surgery Medical College
State of South Carolina—Charleston.

Amos Ray, colored male adult, admitted into city hospital, November 1st, 1882, P. M., with gunshot wound of abdomen. Wound received about 10 A. M., from discharge of pistol (32 calibre, Colt's) in hand of a fellow laborer with whom there had occurred a difficulty. The party firing was in front of Ray at the time and only distant some five paces. Patient had been brought to hospital a distance of several miles.

Examination.—The orifice of entrance of ball was found midway between the umbilicus and pubes, a little to the left of the mesian line. There was general abdominal pain, and an inability to pass water,* with symptoms of slight shock. The bladder was

*NOTE.—Was this paralysis of the bladder following this kind of wound, according to the views of Baudens, Legouest, and Hamilton, or a mere sympathetic retention?

emptied by a catheter, and the urine found of natural character ; a little blood escaped from urethra, which was sensitive and slightly strictured at two points.

At 7:30 P. M., Dr. Kinloch examined patient.* Abdomen was slightly swollen and tender, and in addition there was complaint of pain at end of spinal column just above the anus. The oiled-finger passed into the rectum discovered an orifice through the posterior wall of the gut, and this corresponded with a depression in the bony tissue of extreme end of the sacrum. Dr. Kinloch determined upon an operation as offering the best chance for life under the very gloomy prognosis. At 9 P. M. the necessary preparations having been completed patient was chloroformed and the operation performed under carbolic spray and with full antiseptic precaution. The cavity was opened by an incision in the median line from the umbilicus nearly to the pubes. The intestines were turned out, and carefully examined.

There were discovered five preparations in the calibre of the small gut, and two in the mesentery. The wound in the rectum, after very careful examination, could not be discovered. The edges of all the intestinal wounds were trimmed with the scissors, and the wounds closed with fine carbolized silk sutures (suture of Lembert.)

There was considerable blood in the cavity and but very little fecal matter. The cavity was carefully sponged out, and cleansed with a warm two per cent. carbolized solution. The abdominal wound was closed with silver sutures except at the lower angle where a rubber drainage tube was inserted. Carbolized oiled lint, several layers of borated absorbent cotton, and a broad bandage completed the dressing.

Patient was ordered gr. 1 of opium every four hours. Hot bottles to extremities. Internally nothing more than pellets of ice *ad libitum*.

Nov 2d, 9 A. M. Patient in good spirits, has no pain but is troubled with hiccough. Pulse strong, 116. Temperature 100.°2. Removed dressing and sponged off abdomen with carbolized water. Removed drainage tube, and inserted one of larger calibre. Washed out cavity with a warm two per cent. solution of salicylic acid.

*The report of this case is taken from the Hospital Record Book.

Reapplied dressing to wound, ordered opium to be given every three hours.

12 A. M. Condition unchanged. Patient asked for nourishment. Allowed a spoonful of milk and lime-water every hour.

6 P. M. Changed for the worse. Abdomen very tympanitic. Pulse 128, and weak. Temperature 100.2°. Washed out cavity again.

11 P. M. Patient sinking. Pulse 170 and scarcely perceptible. Temperature 100.2° Extremities cold and surface generally bathed in cold sweat.

2:15 P. M. Patient expired.

Nov. 3d, A. M. Autopsy revealed the fact that the mesentery and omentum had five perforations, and the intestines four, two or three were orifices of entrance and two of exit. All the openings but one were closed, this, apparently had escaped detection. The ball had passed downwards and slightly to the right, entering the rectum just below the recto-vesical fold, and traversing the sacro-coccygeal articulation, scaling off a piece of the sacrum and imbedding itself in the glutei muscles from whence it was extracted. There was a very little fecal matter in the abdominal cavity together with some bloody serum. The whole mass of the small intestines exhibited signs of acute inflammation, and here and there presented ecchymotic patches.

Remarks.—My position in regard to the question of treatment of abdominal wounds has been long since recorded, when reporting the case of W. B., successfully operated upon, during the war, in the July number of the *American Journal of Med. Sciences*, for 1867.

This question, too, has been thoroughly examined by the late lamented Dr. Otis, U. S. A., in the surgical history of the war.

More recently, Dr. Hunter McGuire, of Richmond, and Dr. Marion Sims, of New York, have given to the profession valuable papers in connection with the subject.

In the case now presented, it will be seen that the diagnosis of intestinal wound was fully established before operation, as was also the direction, course and position of the ball.

There was no need to discover fecal exudation through the wound of the abdominal parieties to determine a diagnosis of intestinal lesion. Beyond a doubt the fact was fixed that the case was not one

of those remarkable instances said to have occasionally occurred in which a ball had traversed the abdominal cavity and not wounded any of the viscera.

This, in part, at least, decided me in my resolve to adopt the active or "heroic"—practice, which has the sanction of Heisten, Fallopius, Cheselden, Bandens, Legouest, Pirogoff and Lohmyer in Europe, and Hewitt, McGuire, Lincoln, Billings, Sims and a few others in our country.

While this adds another fatal case to the list of those in which similar treatment has been instituted, it does not alter my belief in the correctness of the practice in the class of injuries presenting so gloomy a prognosis. Though I cannot feel as hopeful in regard to the future of such practice, as my distinguished friend, Dr. Sims, nor partake of that degree of enthusiasm which comes of the successes in ovariectomy, I do look forward to better results than have been so far obtained. There is, strictly, no ground for comparing ovariectomy with the operations for intestinal lesions unless it be in contrasting the conditions in the two proceedings to determine at once how much more serious must ever be the prognosis in the latter. Listerism, however, and much of knowledge acquired by ovariectomists will embolden many surgeons, who up to this time have favored the passive policy in the treatment of intestinal wounds. We shall soon have evidence of this, and fuller statistics upon which to base conclusions.

From the report above, it will be seen that the autopsy disclosed the fact that one of the perforations in the intestine was overlooked at the time of operation. This has occurred before in at least one reported case, and such an accident is a strong argument with many who are opposed to the active treatment. This failure to close one of the wounds would, with most surgeons, be regarded as a fatal mistake,—one that would always seal the fate of the patient.

I think this, by no means, a legitimate conclusion. Where drainage can be insured, and the cavity washed out, such a calamity, fearful though it be, may at times be successfully prevented.

My failure to find the wound in the rectum, which I knew to exist, was a sad disappointment to me, but I looked for help to the drainage tube. But for this failure I should have closed the cavity.

I do not think that open wound of the intestine determined

the fatal result. The autopsy proved that there had been but little escape of intestinal matter into the cavity, or, that, such discharges had been washed out, by the injections thrown into the cavity.

Death, apparently, was neither from peritonitis nor septicæmia. The little suffering of the patient after the operation was a marked feature. The opening of the abdominal cavity seemed to save from suffering, if it did not save life. The lateness of the operation, (eleven hours after injury) militated against its success, and the numerous perforations of the gut, perhaps rendered success impossible.

A SEVERE TYPE OF RÖTHELN.

By CHARLES W. KOLLOCK, M.D.,
Resident Physician in the Philadelphia Hospital.

Of the thousands of immigrants who have poured into the United States during the past winter and spring, the Philadelphia hospital has received her share as patients. It is an interesting fact that almost all of these people were Swedes and Norwegians, and no sooner has one set been relieved of their troubles and sent onward, than another arrived to fill the ward set apart for their reception. Generally speaking these people were healthy and robust, and it was merely on account of the children that delays occurred. Not a single party came to this hospital in which there were not several cases of rötheln, or German measles. In a few instances only were adults attacked by the disease and these escaped with but few, if any disagreeable symptoms. With the children it was different and though the majority of those sick recovered, still, several died either from the disease, or its complications. The report of the following cases will show how the disease differed in many respects from the descriptions usually given in books and papers upon the subject.

Case I.—Child four years old. The eruption appeared after three or four days of prodromic symptoms, showing itself first upon the face about the forehead and cheeks and thence spreading

rapidly over the head, body and extremities. It continued thus to be plainly marked for two days, and at beginning of the third began to fade and disappeared quickly in the order of appearance, and by the end of the fourth day had entirely faded leaving a slightly mottled and dusky looking skin. There was no desquamation. The temperature which rose before the eruption appeared, continued high during the stay of the eruption and subsided with its disappearance in all cases but this, in which it was more elevated as it disappeared. The following temperatures were taken during the stay of the eruption: 101.8° , 103° , 102.6° , 103.6° . Bronchitis was a complication, mucous râles being heard over both lungs, but there was no consolidation and the cough comparatively loose—giving little trouble. A slight diarrhœa also complicated matters, but was easily controlled.

Case II.—Child two years of age. The eruption in this patient made its appearance as that described in Case I, but was not nearly so well marked. It had a muddy appearance and faded entirely by the end of the second and beginning of the third day. The temperatures were 103.6° , 102.2° , 100° , 100° . Bronchitis and diarrhœa were complications and the child seemed weaker and more prostrated than the others, which was probably due to the enteritis, it being more serious in this case.

Case III.—Eruptions and complications were the same as in the others, and the temperatures 101° , 100.2° , 101.6° , 101.6° .

Case IV.—This case differed in no way from the preceeding. Temperatures as follows: 103.8° , 101.4° , 99° , 99° .

These cases all ran very much the same course, and with the exception of one (Case 2) ended favorably. The latter recovered seemingly from the measles, but gradually wasted and died from the diarrhœa which could not be controlled. The eruption in these cases was not at all like that which most writers describe. It appeared between two and four days after prodromic symptoms were first noticed; did not resemble scarlet fever, but was more like true measles than any other eruption. Appearing first on the face as an erythema, then becoming rapidly papular and each papule capped by the minutest of vesicles which could be felt by passing the hand over the surface. It was pretty evenly distributed over the whole body, but particularly well marked on the

A SEVERE TYPE OF RÖTHELN.

face, breast, arms and buttocks. The spaces between the patches on the face were intensely livid giving to the countenance a peculiar expression. In many places the eruption was confluent and in others was arranged in patches of every conceivable shape. Some of these were crescentic, leading one at first to suspect true measles, but this form was by no means numerous—the irregular forms predominating. The color was not nearly so bright as in scarlet fever and it could never be mistaken for the latter. It differed from true measles in the arrangement of the patches, absence of coryza, but little, if any, swelling in the face, and glands slightly enlarged. The temperature resembled measles very closely, but in all likelihood may have been heightened by the complications. There was no desquamation in any of these cases, which is contrary to the usual termination. Dr. Durhing in an article called, "Observations upon Rötheln," in the *Medical Times* for March 26th, 1881, describes several cases and gives the experience of other eminent men upon the disease. The cases described by him and others were all of a milder type than those we have discussed, febrile symptoms very slight, eruption appearing almost without prodromes, more nearly resembling scarlet fever in color, fading frequently by second and third day and having no complications. Four or five cases in our wards occurring in adults fit admirably into Dr. Duhring's descriptions, and in one of these, certainly, there is known to have been extensive desquamation. None of the latter cases were at all severe, the patients not being sick enough for confinement in bed during the attack. Some doubt may be entertained as to the diagnosis in these cases, but it was pronounced rötheln by Drs. Van Harlingen, Keating, Walker and others. I have neglected to state that the prodromic symptoms were very pronounced in every case and were much the same as in true measles. The now famous micrococci were found in the blood of several cases examined during the height of the attack. The malignancy of these cases can only be accounted for from the fact that the dose of the poison must have been very large, together with the debilitated condition of the children when attacked. Of those who died either during or after the attack, post mortem examinations showed one to have died from the poison itself; one of pneumonia and enteritis; two from entero-colitis and one from tubercular meningitis. Death from

rötheln has been a rare occurrence. The accumulation, as it were, of the poison in the holds of ships not properly ventilated or cleansed must have increased its virulence far beyond what has heretofore been known, and hence the mortality.

RUPTURE OF THE UTERUS—ESCAPE OF INTESTINES BEYOND THE VULVA—RECOVERY.

By D. W. BULLUCK, M.D., Whitaker's, N. C.

I was called March 28th, 1882, to see Lou Valentine, colored, aged 34. Found her in labor with her eighth child, with the following history :

Had been in labor four hours at the end of which time, after a very violent uterine contraction she felt faint, and suffered great pain which was attended with a terrific flow of blood. She had no other pains until after I saw her. Upon examination found her pulse 140, and very weak. Extremities cold, indeed in a state of collapse from loss of blood, which before my arrival had ceased to flow externally.

By palpation alone, I was enabled to determine a transverse presentation. Upon examination, per vaginam, found child's right hand and knee presenting, head resting in the left iliac fossa, found something unfamiliar to the touch occupying the vagina. But proceeding with my examination I found that the child's right arm, shoulder and head had made their escape through a rent in the uterus, into the peritoneal cavity. I stopped further investigation and called Dr. J. C. Braswell (who happened to be riding out with me) to the condition of affairs. After a careful examination he verified my diagnosis but the diagnosis needed no verifying for the fact that we had to deal with a ruptured uterus was too patent for a moment's discussion. Upon removing the bed-clothes "the something unfamiliar" occupying the vagina was satisfactorily explained for there were the intestines which had made their way through the uterine rent presenting external to the vulva. I explained to the husband of my patient the condition of his wife, as

best I could, at the same time telling him I could easily deliver her of the child, but she would die. After stimulating my patient freely, I proceeded, assisted by Dr. Braswell, to turn and deliver. This operation necessitated my drawing the escaped shoulder and arm back into the uterus and literally unbuttoning the head from the rent. After the delivery was completed I proceeded to remove the placenta which was not to be found in its natural location. I then passed my hand through the rent into the peritoneum cavity, and began carefully to search for it, and found it in the right hypochondriac region resting against the liver. After removing the placenta and membranes I attempted to cleanse the peritoneal cavity as best I could, which amounted only to removing a great quantity of blood clots, liquor amnii, etc. It was utterly impossible, under the circumstances (the uterine sinuses continuing to ooze, and my patient almost in a dying condition) to cleanse the uterine and peritoneal cavities as they should have been. We then returned the protruding intestines, and with the hand in the uterus held them in their natural cavity, until by ergot and massage we got up some contraction of the uterus, which, during all of our manipulation remained in a state of complete inertia, and as flaccid in the hand as it could possibly have been, had it been severed from the body. All external hemorrhage by this procedure being entirely controlled, we turned our attention to bringing about reaction in our patient, which contrary to my expectation, was in some degree accomplished in about two hours; after which we left promising to return in the afternoon.

Dr. Braswell, being on a visit at my home, saw the patient several times with me and rendered timely assistance and counsel, for which I here take the occasion to express my sincere thanks, for had it not been for his judicious counsel and ready suggestions the termination of my case might have been very different.

At my afternoon visit which was at about 4 o'clock, I found my patient, all things considered, in a good condition. Pulse 140, but stronger than when I saw her last; temperature natural; complained of pain in the left iliac region and intense thirst. Upon examination I found abdomen very much distended, and uterus but poorly contracted. Ordered a continuation of stimulants and morphia in sufficient quantities to produce sleep and freedom from pain.

Repeated my unfavorable prognosis and came away, to call the next morning.

March 29th. Found my patient had had a tolerably comfortable night. Pulse 120. Temperature 101.5°. Bowels still swollen but not tympanitic. Pain in the left iliac region more intense; pressure in that region very greatly augmenting it. I found by the use of a vaginal speculum that there was a reddish somewhat offensive discharge going on from the womb and by passing my finger through the now torn and lacerated os tinæ that there was no nucleus of intestine in the womb but could by passing it through the rent (the surfaces of which now that the uterus was better contracted were nicely opposing each other) feel the intestines.

As she expressed herself, hungry gave her a glass of milk. Ordered whiskey and quinine to be given freely, and sufficient morphia to produce sleep.

March 30. Found my patient's pulse 120, temperature 101.5°. Had suffered from what she considered "after pains" but had taken freely of milk and chicken broth. External appearance of bowels about same as at last visit. Found upon digital examination of the wounded parts that no appreciable change had taken place in their conditions or relations. By the aid of Howard's speculum, could observe very distinctly the extent of damage done which was a laceration of the uterus, beginning at the juncture of the lower with the middle third of the womb, running downward and backward through the uterine junction with the vagina, invading about an inch and a half of the latter; through the wound could be seen freely oozing a dirty offensive fluid loaded with decomposed blood, etc. By taking a pair of Bozeman's dressing forceps and gaping the wound widely open the intestine could be freely seen moving up and down with each respiration of the patient.

When the wound was freely gaped open and the intestines held back by a good size sponge attached to a sponge holder, a large quantity of the above described fluid made its escape greatly to the relief of the patient.

Now, the idea occurred to me that it was a better plan to syringe out the uterine and peritoneal cavity than to trust to the slow process of drainage through the lacerated parts. So placing her in a semi-recumbent posture, syringed out the peritoneal cavity with

about a gallon of tepid water which had in it 30 drops of carbolic acid. The disinfecting with the apparatus I had at hand was but poorly done, but I consoled myself with hope of doing better at my next visit when I would bring a Sims' speculum. Ordered a continuation of quinine, whiskey and morphia to produce sleep.

March 31st. My patient has had a bad night having eaten a large quantity of "chicken stew" and half-cooked rice which had given her a very severe attack of cholera-morbus. Pulse has run up to 140. Temperature 103.5°. Countenance looked dejected and care worn. Complained of severe "darting" pains through her bowels and great pain and tenderness in the region of the laceration. Notwithstanding the grave condition of my patient I had her put on a table, washed out and disinfected her womb and peritoneal cavity which, by the aid of Sims' speculum, was done very satisfactory.

The washing gave my patient great relief, and while I was yet present she fell into an undisturbed sleep which lasted several hours. After disinfecting and *draining* my patient (which was done by placing her in a semi-recumbent posture, gaping the wound with a Bozeman's dressing forceps and holding the intestines back with a soft disinfected sponge, while an assistant gently stroked the abdomen downward) the bowels were much more flaccid, indeed they were flabby. Ordered more care in the selection and preparation of her food; quinine and whiskey continued; a vigorous application of turpentine stupes to the abdomen and gave morphia as occasion might require.

April 1st. Found my patient, about four hours previous to my visit, had had a decided chill attended as she expressed it with darting pains through every joint and bone of her body. The bowels were found, upon pressure, to be less painful but more distended than at my last visit. Pulse 160 or more and intermitting. The thermometer (notwithstanding she continually complained of chilly sensations passing over her entire body and was bathed in a profuse perspiration) registered her temperature at 104.2°. My patient was evidently suffering with initiatory chill of septicæmia. Did not think it advisable in her condition to move her to a table and subject her to the worry and fatigue incident to my draining process.

My surroundings were perplexing in the extreme. I had a couple of days before lost the valuable counsel of Dr. Braswell and now felt pretty sure that if the irritating fluids that were hourly collecting in the peritoneal cavity from the suppurating surfaces of the torn womb and the disintegrated blood that constantly oozed from the imperfectly closed uterine sinuses were not removed, my patient would soon have not only septicæmia, but general peritonitis. Notwithstanding my anxiety, I determined to wait and see if my patient would not get in a more favorable condition for its removal. Discontinued quinine and gave tinct. iron, gtts. x, and acid carbolie, gtts. iii, every three hours. Continued whiskey, morphia, and turpentine stupes.

April 2d. Found my patient's pulse 140 and much stronger. Temperature had fallen to 102.5°. She had slept about five hours. Bowels had moved spontaneously. She said she would feel much better were it not that she needed washing so badly which she earnestly plead that I should do at once, which I did as heretofore, giving exit to a large quantity of offensive fluid. Continued treatment.

April 3d. Found my patient in every way better. Pulse 120. Temperature 102°. Had had a good night's sleep, but complained of great pain in the region of rent upon least motion. Disinfected peritoneal cavity and womb. Continued carbolie acid and iron every three hours.

April 4th. Patient's condition about the same as at last visit except pulse, which, under constant use of carbolie acid has come down to 100. Temperature 102°. Bowels have moved three times without giving any pain. Continued treatment.

April 5th. Being called a distance from home, did not see patient.

April 6th. Pulse 120. Temperature 103.2°. Skin harsh and dry. Expressed herself as feeling very tired and uncomfortable. Upon examination with Sims' speculum, found edges of wound suppurating, size of which seems, by uterine contraction, to be much smaller. Disinfected peritoneal cavity and uterus as heretofore, which, according to statement of patient, gave her great relief. Continued medicines but lengthened intervals of giving stimulants.

April 7th. Condition of patient very little changed save pulse has fallen to 110.

April 8th. As at all my previous visits, made a thorough examination with Sims' speculum. Found edges of wound granulating through which, widely opened by a Bozeman's dressing forceps, could be seen the intestines moving up and down with each motion of the diaphragm. Pulse 100. Temperature 102°. Used disinfectants and continued medicines.

April 9th. Patient's condition unchanged. Continued treatment.

April 10th. Found patient suffering with a dry cough. Upon auscultation found a small amount of hypostatic congestion of lungs. Ordered counter-irritant and change of position. Washed out peritoneal and uterine cavities and continued iron and carbolic acid.

April 11th. Cough is better. Temperature 101°. Pulse 112. Edges of uterine wound granulating nicely. Continued treatment.

April 12th. My patient had a few hours before my visit what I thought to be a malarial chill. Felt restless and little inclined to take food. Temperature 102.5°. Pulse 120. Discontinued iron and acid, and gave an anti-periodic dose of quinine. Continued other treatment.

April 13th. Patient seems much better than at my last visit. Pulse 112. Temperature 101°. Cough has almost ceased and has passed a good night's sleep.

April 13th. Patient about same. Resumed iron and carbolic acid but at intervals of four instead of three hours. Continued other treatment.

April 14th. Temperature 100°. Pulse 112. Patient feels so comfortable did not disinfect peritoneal and uterine cavities. Continued other treatment.

April 15th. No change, save cough is now entirely gone.

April 16th. Disinfected peritoneal and uterine cavities, the wounds in which are granulating as nicely as could be wished for; for that process greatly aided by involution is rapidly closing the rent.

April 17th. Temperature normal. Pulse 100. As there is no evidence of fever and no pain, did not use disinfectant. As my patient continued very anemic and slow in making more blood, changed general treatment to sulphate iron, quinine, and elixir

vitroil, in the usual doses to be taken three times a day and saw that she was supplied with better food.

April 18th. Did not see patient.

April 19th. Upon examining and disinfecting the inflamed parts, found them in the same good condition as at last examination.

April 21st. Gave, in addition to last general treatment, 30 drops of extract of ergot three times a day.

April 22d. At this visit found the edges of uterine wound are so much stiffer and thickened by uterine contraction and plastic inflammation that even when they are widely gaped open the intestines remain in their natural cavity without being held there by a sponge as has been necessary heretofore. Used disinfectant and continued general treatment.

April 23d. Found my patient doing well with exception that she was suffering with intense nausea which she likened unto "morning sickness." Upon examination with speculum found the healing surfaces by uterine contraction held asunder, but their thickened condition still held the intestines in their natural cavity. Pulse and temperature normal. Continued treatment.

April 24th. Patient is doing well in every respect. As drainage is unassisted, going on from peritoneal cavity, only disinfected vagina and continued other treatment.

April 26th. Found my patient, who is very anemic, had for two last nights suffered with severe "night sweats." Examined healing surfaces and found that free drainage was going on. Continued general treatment and ordered vagina to be washed out three times a day.

May 1st. Found since my last visit that "night sweats" have ceased. General condition of my patient has continued to improve. Continued vaginal injections and tonics.

May 10th. For the last ten days patient has steadily improved. Has sat up a good portion of each day and has twice gone out of doors. Expresses herself "almost able to cook."

The only vestige now left of what a month ago was a fearful rent of the uterus involving not only more than a third of the entire organ but including its junction with the vagina and an inch and a half of the upper portion of the last named organ is a lacerated and badly disfigured cervix, the raw surfaces of which are glistening and exude but a very scant quantity of healthy pus.

In reviewing the treatment of the certainly very interesting and grave case, the question no doubt will be asked: "Why I did not insert a drainage tube through Douglas' cul-de-sac, and do away with the tedious process of washing out the peritoneal cavity?" It is this: The peritoneal cavity was constantly filled with blood and disintegrated blood-clots which necessitated being more thoroughly divided in order to come away and a stream of water was the only means that would do it satisfactorily. I relied upon carbolic acid internally in the treatment of the septicæmia which my patient undoubtedly had; because in my hands it has far more control over that disease than quinine, salicylic acid or any other remedy that I have tried. Invariably, when persevered in, reducing temperature, lessening the frequency of the pulse and bringing on a sharp diarrhoea greatly to the relief of the patient.

The strength of carbolic solution used in washing out the uterus and peritoneal cavity was 30 drops of a 95 per cent. acid to the gallon of water, which was about the quantity injected into the peritoneal cavity at one time.

A CASE OF OVARIOTOMY.

By E. MILLER, M.D., Florence, South Carolina.

Mrs. Reynolds, the widow of a once prominent physician of Marion, County, S. C., first noticed an unusual fullness in the abdomen, unrelieved by defecation, urination and menstruation as heretofore, in August, 1880, whilst on a visit to friends in Columbia. Its persistence and the consequent discomfort led her to speak to me of it; but the time and place precluded an investigation of the causes, and as costiveness was a prominent feature in her complaint she was requested to take sulphur and cream tartar, and if she failed to obtain relief I would see her further at a future time. This was in July, 1881, and enlargement of the abdomen was a marked feature.

On returning from my summer tour I saw her again in September, when, on examination, the following notes were made of the case:

Age 48, residence Mars Bluff, Marion county, S. C., where she was born, and has always resided, widow, mother of two children, eldest 24, youngest 22, nursed the former but not the latter, never had abortion, complexion fair, emaciation somewhat marked, surface of body smooth, complained a little of cold extremities, sweats but little, no glandular swellings, eruptions, ulcers, or varicose veins, and but slight transient œdema of lower extremities, mobility of tumor not free, evidences of adhesions exist, but the extent is not clear; no dilated veins; fluctuation general over the abdomen. There, however, is a spot of irregular surface, hard, the size of the palm of the hand in the right iliac region, three inches from the pubis, a hard lump, the size of a small walnut, also is found in the left side just below the ribs and extends downward until it is lost in the fluctuating mass of the tumor; the upper portion is not freely movable, nor is it firmly attached.

Tenderness found under the ribs of both sides, and over the irregular surface. Percussion gives general dullness over the entire abdomen. On changing to the knee-chest position, however, general dullness is found on the left side from the ribs to the pelvis, and from the spine to the umbilicus. Resonance clear on the right from the ribs to pubis, and from the spine nine inches towards the median line. This resonance is only found in this position of the patient.

Pelvic Examination.—The uterus is low in the pelvis and receives the sound $3\frac{1}{2}$ inches. When the handle is moved it communicates no motion to the tumor and *vice versa*. An retroversion is found, and the sound could not be induced to enter the uterus at all in the knee-chest position. On the back, there was no difficulty in its introduction. Uterus has free mobility, but it is sluggish from the super-incumbent weight of the tumor. Os and cervix healthy. There is a small interstitial fibroid in the walls of the vagina $1\frac{1}{2}$ inches from the ostium on the left side, the size of a pea. Douglas' cul-de-sac seems clear and the pubic portion allows a free sweep of the finger between it and the tumor.

Rectal examinations discloses the firm body of the tumor which seems rather too unyielding to contain fluid at this point without the walls are greatly thickened.

Catamenia irregular for six or eight months. First appeared at 12

or 13 years. Have never had suppression, excess, deficiency or leucorrhœal discharge. Dysuria almost constant, but the color and odor of the urine is natural, and she passes $\frac{3}{4}$ xviii in twenty-four hours.

Tongue clear. Appetite variable. No thirst. Occasional flatulence. The bowels often require a purgative to unload them. Sleep is disturbed by frequent desire to change position. Has occasional neuralgia without prominent marks of hysteria. Breathes seventeen times a minute. Has no cough or physical signs of chest-disease. Rests alike on both sides. Pulse 100 while sitting. Heart sounds a little weak. Mode of life has been regular. Has always felt worse after exercise since her trouble began. The process of enlargement has been gradual, but pretty rapid.

On the 3d of October she had a fall but at the time felt no inconvenience. Next day she experienced great pain in the abdomen which continued for more than a week, and was only relieved by morphia. At this time, she was unable to turn in bed without aid. Evidently peritonitis or cyst inflammation the result of the fall.

Having now decided that her disease was ovarian, and that an operation for its cure was inevitable, I so informed the patient, who, after a week's deliberation and consultation with her friends, decided to.

Preparatory treatment was accordingly instituted. First, mur. ammonia in grs. x doses with 1-25th gr. hydr. coros. was given three times a day, with grs. x of quinia one night every week. She had a weekly and general warm bath and friction of the skin with vaseline. The above was continued for about three weeks, when tinct. of nux vom. was given in 12 to 13 drop doses, three times daily until she came to Florence for the operation. Under this course her general health was improved. In the meantime I had sought the counsel of several professional gentlemen, viz. : Drs. Evans and Blackwell, of Florence; Player and Lunny, of Darlington; and Kollock, of Cheraw, all of whom saw the patient and entirely confirmed my diagnosis, and recognized the necessity for an operation.

Preparations were accordingly begun and continued until completed, about the sixth of February, when she came to Florence to be in readiness. She now had a general warm bath every night

followed by vaseline frictions to the entire surface of the body, and at bed time grs. x of quinine per orem. Her diet was regulated in such a way that the bowels might have as little excrement to void as possible, still they kept acting daily.

Her measurements were, now, around the umbilicus, $39\frac{3}{4}$ inches; around body, half-way from pubis to umbilicus, $37\frac{3}{4}$ inches; around body at epigastrium, 23 inches; from epigastrium to umbilicus, $7\frac{1}{2}$ inches, from umbilicus to pubis, 9 inches.

On October 1st her girth at the umbilicus was $36\frac{1}{2}$ inches, showing an increase of $3\frac{1}{4}$ inches in less than $3\frac{1}{2}$ months.

The physicians invited, from among whom the necessary assistants were to be obtained, were requested to be at Florence on the 14th of February.

The unusual precaution had been taken to build a house specially for this case and great care was taken to carry out fully and in detail, every antiseptic precaution. The rooms had been kept for several days at a temperature of 80° that the new plastering might be fully dried and warmed enough to guard against sudden changes.

A week's preparatory treatment brought the patient to the day appointed for the operation, and on the previous evening she went to the house prepared for her, where she spent the night with her daughter alone, and had for tea, bread, butter and coffee, after which, she had a general warm bath in which carbolic toilet soap was freely used, then the usual vaseline inunction, and taking 10 grains quinine retired for the night.

Rested well during the night, and had for breakfast, coffee and toast. Her bowels having acted freely from a dose of hydrarg. mite, grs. x, bicarb. soda, grs. xxx, given on the night of the 12th, and acted twice on the morning of the operation. The usual enema was dispensed with, and grs. xii of quinia given per orem.

A new spring cot and wool mattress never before used was provided for the patient. A copper baking pan was arranged on a convenient table, and the bottom covered three-fourths of an inch with a five per cent. solution of crystalized carbolic acid and kept at 100° F. In this tray, two hours before the operation, was placed all the instruments, ligatures, sutures, threaded needles, etc., and although the instruments had never been used before, the same precautions were taken as if bacteria were known to infest each

joint. The sponges were now wrung out of a similar solution and put in a closely covered tin bucket and placed near the fire, and an inventory of the whole taken. Each one present was requested to thoroughly cleanse his hands in a similar solution, using in the most effectual manner the nail brush.

Elastic bandages were in readiness in case of hemorrhage or fainting from loss of blood, that they might be applied to the extremities and utilize the blood from them in sustaining the circulation in case of emergency. Hypodermic syringes were in readiness with ammonia, ether and brandy at hand, and a galvanic battery was in readiness for immediate use. These provisions had been made for possible contingencies.

The operating table, 22 inches wide and 33 inches high, was placed where the light from two windows would fall on it unobstructed by the operator.

The steam spray apparatus was now set to work, using a 1 to 30 per cent. solution of carbolic acid. A quilt and blanket spread upon the table, a pillow arranged, and a chair set that the patient might easily reach it.

Everything being now in readiness, the patient arose, evacuated the bladder, and walked, with the assistance of two professional friends, and took her place on the table.

The anesthetic used was chloroform until she was under its influence, after which the effect was maintained by sulph. ether.

While she was being anesthetized, I took occasion to tell the gentlemen present, several of whom had not previously seen the patient, the results of my investigation of the case: 1st. That the tumor sprang from the left ovary, and had a pedicle of medium length. 2d. That its character was both fluid and solid, the former predominating. 3d. That adhesions existed but to what extent my mind was not clear.

The patient being now ready, Drs. Lunney and Kollock steadying the abdomen, I cut through to the peritoneum at once. The incision being along the median line and about four inches in length. Waiting until the bleeding, which was free, ceased, I plunged a Fitch dome trocar into the tumor. Scarcely had the fluid commenced to run when a spell of violent retching came on, and the attenuated walls of the sac tore about two inches in extent,

beginning where it had been punctured, and through this opening its contents flowed and quickly filled the unoccupied cavity of the abdomen. She was turned on the left side, and the greater portion ran out. Then again changed to the back when search was made for adhesions, when they were found to be strong anteriorly, but were separated with the hand. Adhesions also existed with the omentum, transverse colon, and peritoneal walls of the right lumbar region. All, however, were separated by the hand.

The pedicle now received attention. It was grasped on either side with a pair of Kœberle locked forceps, and as near the tumor as possible with another, and the stalk was severed with a clean cut between them. The tumor had parted with its fluid contents through the rent. I now tried to bring through the solid portion, but finding it impracticable, the scalpel was used to cut it to the centre, only blood flowed from it. I now tried the hand in an effort to break down its substance, failing in this expedient, the wound was enlarged to nine inches, when the tumor rolled out into the hands of Dr. Kollock.

The pedicle was transfixed with a needle carrying a double ligature of strong silk (below where the forceps grasped it) and cut out, leaving two threads. They were tied in opposite directions, then each was made to include the whole pedicle, tied, cut short, the forceps removed, and after observing to see there was no hemorrhage, released.

The toilet of the abdominal cavity was now begun, and continued until all hemorrhage ceased, and all the wasted contents of the sac removed. Sponges were often sent down in locked forceps to Douglas' cul-de-sac until they came up unsoiled. Bleeding points sought and secured, and all oozing having ceased, the wound was ready to close. And just here I found a great advantage in the precaution that had been taken before making the incision, of drawing transverse lines with a blue pencil about an inch apart across the median line and by placing these lines in apposition all puckering was avoided in closing the wound.

Everything now being in readiness, a sponge, the size of a green walnut was grasped in locked forceps and sent down into Douglas' cul-de-sac, the handle protruding from the lower angle of the wound. A broad flat sponge was then placed over the bowels and

the two lower sutures were passed with a needle at each end and the others passed with Peasele's needle, armed with a single long thread as follows: the two edges of the wound were pressed together by the hands of assistants, and the needle sent through both sides, where the short, or loose end of the thread was caught and retained, and the needle withdrawn (thread still in the eye) until a sufficient length had been left in position, when it was cut with scissors and left in situ, the needle being armed all the while, with the suture is immediately entered again for another stitch. I have not seen this stitch described, nor have I heard of its use, but it will prove satisfactory in practice.

Having passed all the sutures, nine in number, and included a ribbon of peritoneal surface in each, they were drawn to each angle of the wound from the middle, and the large flat sponge removed and found clear of blood. The sponge in the cul-de-sac was next removed, examined, and as it was found to have a little blood, a second was sent down, and the sac thoroughly cleansed. The sutures were then brought together, tied and cut off, a glass drainage tube being tied in lower one, over the end of which was placed a carbolyzed sponge, covered by a white linen cloth and secured by a ligature at the bulge, all was changed as often as soiled, the white cloth being the indicator, sponges squeezed, and quantity noted, etc. A large layer of salicylated absorbent cotton was placed over the wound, held in place by an elastic flannel roller secured with safety pins.

Patient was transferred to the cot now in readiness for her, it having been previously made warm and comfortable by bottles of hot water covered up in it. Time occupied in the operation, 70 minutes. The cot on which the patient lay was now transferred to her room, and I was asked by one of the gentlemen present, if I would not now give an anodyne. The reply was: I will give her nothing, simply because of the surgical operation; but any symptoms arising, that deserve treatment, shall be attended to on their merits. This basis of action is the only satisfactory, and I believe will prove the most successful course of procedure.

The tumor was a multilocular fibroid. The sac contained, perhaps, 20 to 25 pounds of fluid of a chocolate color, and gluey consistence. The amount could only be estimated as the sac burst and the contents could not all be obtained.

The solid portion which seemed to be only the thickened walls of the sac, was filled with a number of small sacs, showing on the outside several of these filled with a transparent glutinoid substance. Its weight was 11 pounds, resembling at a glance a beef's lungs. Weight of the whole 26 to 31 pounds.

Observations were taken and recorded of this case regularly every six hours. The first being February 14th, 6 P. M., six hours after the operation.

Feb 14, 6 P. M. Temperature 98.3°. Pulse 104. Skin moist. Urine drawn twice amounting to ozs. viii. Has had nausea but it is subsiding, and has asked for coffee which was given, but she vomited. Restless, for which gtts. xxx tinct opii, per rectum, was given, after this she slept short naps. Complained of pain between the shoulders which was relieved by rubbing the part with spts. camphor.

12 midnight. Temperature 99.7°. Pulse 106. Urine drawn ozs. iv. Nausea ceased. After friction with camphor slept soundly two hours more comfortable.

Feb. 15th, 6 A. M. Temperature 98.7°. Pulse 102. Respirations 25. Urine ozs. iii. During the latter part of the night has taken a little milk and ice.

12 M. Temperature 98.5°. Pulse 106. Respirations 25. Urine ozs. ii. Restless, to have tinct. opii, gtts. xxx, per rectum.

6 P. M. Temperature 100.5°. Pulse 120. Urine ozs. v. Stomach quiet. Has taken at intervals one drachm whiskey and iced water.

12 midnight. Temperature 100.5°. Pulse 124. Since 9 P. M. has taken nine table spoonsful of iced milk. At 10 P. M., had, per rectum, quinia xx grs., brom. potass. grs. xv, in one ounce water.

Feb. 16th, 6 A. M. Rested quietly but vomited the milk. Discharge from the drainage tube. Sponges changed when white cloth on the end is soiled. Discharges most under efforts at vomiting. Passed ozs. vii of urine voluntarily and flatus for the first time, and with some relief.

12 M. General appearance feeble. Appetite for essence of beef and brandy. Dejections: bowels acted at midnight. Pulse rapid. Respirations 30. Temperature 100°. Skin cool and moist. Pain not complained of. Sleeps half the the time. Head is clear and without pain.

6 P. M. General appearance languid. Appetite poor, only fluid taken. Dejections. Urine ozs. iii. Pulse strong, 120. Respirations 25. Temperature 100.3°. Skin moist. Pain not complained of. Sleeps one-half the time without anodyne. Head not complained of. At 3 P. M. had an enema of beef tea and milk, retained. Drainage estimated at one or two ounces per day.

Feb. 17th, 6 A. M. General appearance, cheerful. Appetite increasing. Urine oz. vi voluntarily. Pulse 120. Respirations 26. Temperature 99°. Skin cool and moist. No complaint of pain. Sleeps short but refreshing naps. Has taken during the night oz. xii beef tea with relish. Turns on the side unaided, in which position there is considerable oozing from the tube. Complains of its presence.

6 P. M. Vomited coffee taken at 8 A. M. Appears a little depressed. Appetite not so good as this morning. Urine oz. ii. Pulse 118. Respirations 26. Temperature 101°. Skin a little dry. No complaint of pain. A little more wakeful this evening. No head symptoms. Acid eructations. R. Subnit bismuth, grs. vi; morphia, gr. $\frac{1}{2}$, per orem. Removed the drainage tube and placed over the opening left, carbolized sponge and then a layer of salicylated absorbent cotton, held in situ by adhesive strips.

Feb. 18th, 6 A. M. General appearance cheerful. Has taken chicken soup oz. iss. Passed urine oz. vi, and flatus. Pulse 112. Respirations 27. Temperature 100. Skin cool. No pain. Sleep quiet and refreshing. Champagne, oz. ii. Lime water and bismuth for eructations. Expressed herself to-day for the first time as improved. To have food and stimulants at intervals of three hours.

6 P. M. General appearance favorable. Appetite improving a little. Urine oz. vi. Flatus. Pulse 118. Respirations 26. Temperature 99.7°. Cool skin. No pain. Not so much sleep to-day. Had half of a large orange to-day which was greatly relished.

Feb. 19th, 6 A. M. General appearance somewhat languid. Favorable appetite. Urine since last report oz. xiv. Flatus. Pulse 112. Respirations 24. Temperature 99°. Skin cool. A little uneasiness in the bowels, not so much but refreshing.

6 P. M. Had beef steak to-day, but did not swallow it; iced milk, tea and toast. Milk and egg custard, oz. viii. Gruel oz. vi. General appearance improved. Appetite improving. Dejections of bowels slightly. Urine oz. xvi. Pulse 118. Respirations 28. Temperature 101.5°. Complained of the motions of the spring cot which was remedied by placing slats on the springs under the mattress.

Feb. 20th, 6 A. M. General appearance more natural and much improved. Appetite good. Urine oz. xii. Flatus. Pulse 110. Respirations 22. Temperature 98.7°. Skin cool. No pains. Sleep sound and refreshing. Had iced custard, tea and toast. Asked for hominy.

The following is the mean and daily average for the first week ending at midnight: Urine 5.37-8.4th ozs. Pulse 113.19-28. Respirations 28.5-12ths. Temperature 99.43-56°.

The second week ending at 12 midnight on the 27th, gave the following average: Pulse 107 $\frac{1}{2}$. Respirations 21.3-7ths. Temperature 99.179-336.

6 P. M. General appearance still improving. Appetite improving. Urine and flatus free. Pulse 116. Respirations 25. Temperature 100°. Skin cool. No pains. Sleeps well. No complaint of head which is clear. A sanguineous discharge has appeared from the vagina to-day. Removed the dressing. Wound healed throughout except a small portion at the upper and lower angle. The latter having been occupied by the drainage tube, not the least smell could be detected. Strips of adhesive plaster were placed over the wound and salicylated cotton over these succeed by the bandage as at first. She complained of the wool mattress and was moved to a feather bed, it being her custom to use one, and changes position to either side at will.

Feb. 21st, 6 A. M. Pulse 108. Respirations 33. Temperature 100.5°. Had, during the day, milk and toast, tea, hominy and butter, beef steak, custard, wine jelly, and turkey. Bowels acted once, of a good consistence.

Feb. 22d, 6 A. M., Took last night, quinia, grs. x, morphia, $\frac{1}{8}$, brom. potass, grs. xv. The unvarying temperature of 100.5°, for 24 hours caused me to cast about for a reason. The dressings were removed. Abdomen examined and dulness detected just over and above the right ovary in a place as large as the palm of the hand. Complaint was made on pressure over the seat of dulness. I was requested to see the patient at 1 A. M., when I found a sero-sanguinous discharge was flowing from the place lately occupied by the drainage tube amounting to oz. xii to oz. xvi. Patient was sleeping soundly on her side at the time. I had previously determined to establish drainage, had not nature anticipated me a few hours.

Feb. 23d, 6 A. M. Appetite good. General appearance more favorable. Dejections twice from bowels. Flatus free. Urine oz. xvi. Pulse 110. Respirations 20 to 22. Temperature 99.2°. Skin cool and soft. A little uneasiness in the bowels. Sleeps well. Head clear. Tongue is a little white. Asked for acid, was given. Hydrochloric acid, gtt. ii; tinc. nux vom. vi, in a wine glass of water every three hours.

12 M. Temperature ran up to 101.5°, and she became restless. Acting on nature's suggestion in the discharge, giving relief. At 6 A. M. of the 22d, I procured the aid of Dr. Evans, when a syphon was improvised by connecting large size male catheter with a half-inch rubber tube filling it, by laying it in a basin of water, the end furthest from the catheter was now caught with the fingers, and the catheter inserted where the drain tube was, and the other end lowered, through which oz. xii pus flowed. When it ceased the free end of the tube was placed in water at 100° F., in which one drachm to the Oj had been put of chloriated soda. The pan was now elevated and Oij of this fluid flowed in. It was then drawn out by reversing the position, being a little

tinged with pus. Improvement was manifest at once. In three hours the temperature had receded from 101.5°. to 99.2°, and her other symptoms had improved correspondingly. She called for and had a full saucer of corn meal mush, on which had been melted a teaspoonful of butter, followed by a cup of iced milk, when she slept quietly. A tent was left in the lower angle of the wound. The dressing had been changed twice to the present, but disclosed no odor. These changes were effected under the steam spray.

Feb. 24th. General appearance very good. Appetite good. Dejections from bowels four times. Pulse 102. Respirations 28. Temperature 98.5°. Skin cool. No pains. Sleep a little troubled. The treatment of yesterday with the syphon was repeated, oz. i of fluid, of a sero-purulent character, was all that could be obtained. Saw a near relative to-day, and in the evening temperature rose to 102°. Restless. Throwing the head from side to side. Morphia, gr. $\frac{1}{4}$; tinc. aconite root, gtt. i every hour until she sleeps.

Feb. 25th. Appetite anxious. Urine often. Pulse 102. Respirations 18. Temperature 100°. Skin cool. No pain. Slept soundly after third dose of aconite. Had food three times. Her frequent and urgent desire to urinate caused me to give a hot vaginal douche, which gave relief and was a great comfort.

Feb. 26th. Still improving. Appetite good. Dejections of urine and flatus free. Pulse 96. Respirations 18. Temperature 99°. Tent removed. Wound discharged, oz. ii. Abscess formed in the right side opposite the pedicle, but discharges at the opening left by the tube. A soft elastic compress was placed over it to prevent accumulation.

Feb. 27th, 6 A. M. Pulse 112. Respirations 20. Temperature 100.7°. 6 P. M. Pulse 104. Respirations 18. Temperature 99°. Her condition continued to improve with an occasional rise of temperature which was finally developed into a periodic malarial exacerbations, recognized and successfully combatted after which her restoration was rapid and uninterrupted. She sat up, out of bed, on the 3d of March. On the 5th she walked across the room. On the 6th an effusion was recognized over the pedicle, mopped out, and sol. mur. ammonia applied on a compress. Under this treatment it gradually disappeared. Nothing further of note occurred more than is shadowed in these notes of treatment, and on the 24th she left the house, and on the 5th of April went to her home. She left the house where the operation was done in 37 days. In 48 days she left for home, having been absent altogether 55 days.

In summing up the case, we find that pain has not been a feature. That her improvement was uninterrupted except by the abscess, and slight malarial trouble. The appetite progressively

improved and was maintained throughout. The highest temperature reached at any time was 102° , it being malarial, soon subsided. The average temperature makes an exceedingly favorable showing in the two weeks summary. From that time it gradually assumed the normal standard, being increased slightly in the evening. As little change as possible was made in her diet and mode of life, hence coffee, mush, hominy, ect., early appears in her dietary.

CRITERIA OF INSANITY.

One of the pupils of Esquirol asked his teacher to furnish him with a sure criterion for distinguishing the limit that separates reason from insanity. The next day Esquirol invited his pupil and two individuals, one of whom was most correct in his appearance and in his language, while the other was very loquacious, full of himself, and of his future. When taking leave the pupil reminded his master of the criterion which he asked of him on the previous evening. "Answer the question for yourself," said Esquirol. "You have just taken dinner with a madman and a sane individual." "Oh!" answered the pupil, "the problem is not difficult; the sane man was that distinguished and well-informed man; as to the other he was a chatterer and a fool who ought really to be shut up." "Ah!" replied Esquirol, "you are making a great mistake; the one whom you took to be so very wise, believes himself to be God the Father, and affects in his manners the reserve and dignity which he believes belongs to his position; he is a patient at Charenton. As to the young man whom you took for a fool, in him you see one of the most illustrious of French authors—he is M. Honoré de Balzac."—*British Medical Journal*.—*Cincinnati Lancet and Clinic*.

A SYSTEM OF GYNÆCOLOGY.—Dr. J. E. Janvrin, 191 Madison Square, N. Y., desires reports of cases of ovariectomy in detail, to aid him in writing a chapter on the "History and Statistics of Ovariectomy."

SELECTED PAPERS.

MILK ANALYSIS.

By ARTHUR V. MEIGS, M.D.,
Physician to the Pennsylvania Hospital.

Gentlemen:—In addressing you this evening I desire to lay before you the results of some experiments made in the last year with milk, and to detail a method for an analysis which I have devised. If my results are correct,—and I am quite satisfied they are,—they will prove useful in putting upon a more settled basis the much vexed question of the artificial feeding of infants; and my method of analysis offers a rapid means of determining with certainty and exactitude whether any given specimen of commercial milk has been adulterated. The question of the composition of milk may seem, to any one who has not investigated the subject, one upon which ample and exact information may be had by turning to any one of the many standard works on physiological chemistry. That this is not the case, in regard to human milk at least, an examination of a number of books has convinced me. The most widely different results are quoted without comment by different authors, and in some instances there are placed upon the same page, in parallel, figures so different that an examination of them makes it plain that both cannot be correct. Two of the most widely quoted analyses are those of Vernois and Becquerel, and of Simon, whose results, which are nearly identical, seem to me to be certainly incorrect. These analyses are taken as standard by Carpenter, Kirke, Marshall, Edward Smith, Kehrer, Gorup-Besanez, and others. The time is too short for me at present to make a detailed statement of their processes, or to attempt to show what I consider to be the fallacious portions. It will be sufficient to say that Vernois and Becquerel do not separate each of the constituents of milk by itself, but satisfy themselves in determining the amount of casein simply by difference; that is when they come to the stage of analysis at which they desire to separate the casein and sugar, they attempt to precipitate the casein and filter off the sugar; then they estimate the amount of sugar in the filtrate, and assume that what is not sugar in casein. Any one who will repeat their process will

find, I think, a large proportion of sugar left on the filter, and this they class as casein, thereby making the percentage of casein much larger, and that of sugar much less, than it actually is. Simon attempts to separate the casein and sugar by the addition of an excess of alcohol to a concentrated watery solution of the two. If a concentrated solution of milk-sugar in water is treated with an excess of alcohol, a part of the sugar is precipitated. This precipitation of sugar doubtless took place in Simon's experiments, and caused him to class a portion of the sugar as casein. Mr. Wanklyn; who has written the best book with which I am acquainted upon "Milk Analysis," says, "Milk exhibits great constancy of composition. * * * * The milk of an animal has probably very much the same constancy of composition as the blood of the animal. * * * As will be readily comprehended, this constancy of composition is a cardinal fact in milk analysis. If milk were variable in strength, as urine is, chemical analysis would fail to detect the watering of milk." Mr. Wanklyn confines himself to the examination of cow's milk; but if what he says of cow's milk is true, why should the case be different with human milk? Why should human milk vary so much as the analyses of different chemists would lead us to believe, when such great uniformity of composition is exhibited by the milk of the cow? I will quote three analyses of human milk to show how widely at variance are the results of different chemists: first, one by Henri and Chevallier, then that of Vernois and Becquerel (the mean of eighty-nine analyses), and last, one from the *Practitioner* (vol. xxvi., 1881), by Messrs Dolan and Wood, of Halifax.

	H. and C.	V. and B.	D. and W.
Water.....	87.95	88.908	89.045
Fat.....	3.55	2.666	1.764
Casein	1.52	3.924	7.005
Sugar	6.50	4.364	1.921
Ash .....	.45	.138	.265
	<hr/>	<hr/>	<hr/>
		100.000	100.000

(The analysis of Henri and Chevallier, it will be observed, does not add up quite correctly. It is quoted as found in the work of Gorup-Besanez.)

It is impossible that these three analyses can all be correct. I cannot believe that human milk ever contained, as Messrs. Dolan and Wood state, seven per cent. of casein and less than two per cent. of sugar. The method they pursued was to estimate the sugar by the use of Fehling's solution, and calculate the casein by difference. The copper test, I am convinced, is not to be depended upon as a means of quantitative analysis if there is no way of proving the results arrived at, and when an unknown quantity of sugar is to be determined. In support of this belief, I may state that I once sent two solutions of milk-sugar of known strength to a reputable sugar chemist, and asked him to estimate the amounts contained by means of the copper test. In both instances he concluded that the solutions contained about one-third less than was actually the case.

I agree with Mr. Wanklyn that milk usually exhibits great uniformity of composition. This is particularly the case with that which we get from dealers, for then it is always the milk of many cows mixed together; and of course the mixed milk of a whole herd is not liable to the same variations as would be the milk of any one individual cow. There is one point, however, upon which I must differ from him, and it is that I believe the fat to vary very much, although the other conditions do exhibit great uniformity in their amounts.

My own analyses prove quite to my satisfaction—and this is the point I desire to bring to the attention of the Society—that human milk never contains more than from seven-tenths of one, to one and a half per cent. of sugar. Now, if this be true, how different is human milk in its composition from the idea commonly accepted by the profession! In many books upon physiological chemistry the results of Vernois and Becquerel are quoted as being the mean of eighty-nine analyses, and therefore they are given the first place in authority. A comparison of their figures and those of Simon with any ordinary analysis of cow's milk shows almost an identity, the only difference of any considerable amount being in the quantities of ash given; and yet who is prepared to say that human and cow's milk are identical? I quote for comparison an analysis of "average country milk," as given by Mr. Wanklyn ("Milk Analysis," etc., New York, D. Van Nostrand, 1874), and with it the mean result, as given by Vernois and Becquerel (incorrect in

my opinion), of eighty-nine analyses of human milk. (Mr. Wanklyn's figures have been reduced to percentage.)

	Wanklyn.	V. and B.
Water.....	87.551	88.908
Fat.....	3.071	2.666
Casein	4.043	3.924
Sugar	4.626	4.364
Ash.....	.709	.138
	<hr/> 100.000	<hr/> 100.000

Some chemists have attempted to show that the difference lies in the casein, that of cow's milk being unlike that found in human milk. The fact seems to me to be plain, whatever may be the differences between the two caseins that the milk of the woman contains only one-third as much as that of the cow. The question is often asked, Why does human milk coagulate so much less readily and so differently from cow's milk? The answer is that it contains a much less proportion of casein, the coagulable matter. Human milk cannot form the large leathery coagula so often produced in cow's milk, because the casein is relatively dissolved in a so much greater quantity of water. Biedert (*Virchow's Archiv*, Bd. lx., 1874) has written an elaborate and much quoted article to prove the difference between the caseins contained in human and cow's milk, and makes a very strong case, but fails to notice the great and cardinal difference, that the proportion of casein is much less in the one than in the other. Casein is in its nature akin to albumen, and every physician has noticed the different effects produced when albuminous urines containing different amounts of albumen are boiled or treated with acid. If the amount of albumen is small, the coagulation takes place in the form of a mere opalescence of the fluid, the coagula are individually so small that they cannot be seen; whereas if the amount of albumen be large, the coagulation takes place in heavy white flakes. Why can we not accept so plain an explanation of the different coagulability of the two milks, that the one contains much less coagulable matter than the other, rather than seek for some far-away difference in the chemical composition of the casein?

Casein is universally acknowledged to be the element in cow's

milk which the infant stomach finds most difficult of digestion ; and yet most physicians and nurses forget that in diluting milk to reduce the proportion of casein they reduce also the proportion of fat much below the amount contained in healthy human milk, and the sugar still lower, because, even in its normal condition, human milk contains much more sugar than does cow's milk. Therefore cow's milk, in order to make it a proper food for infants, should be reduced one-half or two-thirds with water, and cream and sugar added to make the fat and sugar amounts equal those contained in healthy human milk. The giving of pure cow's milk to new-born infants, as advised by M. Parrot, is altogether inadmissible, both because experience shows that infants so fed do not thrive, and on the theoretical ground that cow's milk is too unlike human milk to be a good food for the new-born infant. I wish, then, to be clearly understood to assert, as the result of my experiments, that human milk contains only from seven-tenths of one and a half per cent. of casein and about seven per cent. of sugar, and that it never contains, as the commonly accepted belief, nearly four per cent. of casein, for which latter belief I think the erroneous and widely quoted results of Vernois and Becquerel and of Simon are largely responsible.

To carry out the method of analysis I propose, 15 c.c. of milk are required. The first step is to discharge from a pipette 5 c.c. of milk into a small platinum dish, and at once weigh it and note the weight. This dish is then placed in a water bath, and the water kept at the boiling-point until the milk is completely dried and ceases to lose weight. This takes as Mr. Wanklyn points out, about three hours, when 5 c.c. of milk are used. (I have found most convenient as a water-bath a common skillet, and into this I place a disk of copper, with holes in it, of such a size as to hold the platinum dishes to be used, the whole being floated upon copper air-chambers soldered to the under side of the disk. This apparatus may be left for hours in the bath without any watching, and yet the platinum dishes are constantly immersed in the boiling water.) As soon as the water becomes constant, it must be noted, and the contents are then incinerated, best over a blast flame, and the weight again noted. In incinerating, the heat used must at first be moderate, and then gradually increased.) This ends the work upon the first 5 c.c., and gives the amounts of water, solids not ash, and the

ash. At the same time that the first 5 c.c. are weighed, 10 c.c. must be weighed in another dish, care being taken, of course, that the weight is exactly twice that of the 5 c.c. This is poured into a high, narrow bottle the ordinary 100 c.c. graduated bottle answers the purpose), and 20 c.c. of distilled water added, this being used to wash all the milk from the vessel in which it has been weighed into the bottle. To this are now added 20 c.c. of ether. The bottle must then be tightly stoppered and agitated violently for five minutes; 20 c.c. of alcohol are then added, and it is agitated for five minutes more. If it is then set down for a few minutes, the contents will be found to have separated into two layers; on top will be found ether, containing fat in solution, and below will be a mixture of part of the ether, the alcohol, and the water, containing coagulated casein in suspension and the sugar in solution. The ethereal solution, which is on top, is then drawn off with a pipette, as nearly as can be done without disturbing the lower layer; 5 c.c. of ether are poured on to mix with what fat is left, and this drawn off. Ether I have usually poured on and drawn off five times, 5 c.c. being used each time, so as to remove all the fat. The ethereal solution of fat is now dried over warm water, and finally, for a few minutes, over boiling water: the resulting weight—that of the dish being deducted—is, of course, the weight of the fat. We have now left in the bottle the sugar and casein, with the salts. The contents are carefully washed into a large platinum dish, and dried over the water-bath. The dried residue is treated with boiling water, and the dish and contents placed aside to settle. The undissolved casein soon settles to the bottom, and the clear solution of sugar is poured off. The solution of sugar is now again dried, and the same process repeated, the sediment being added to that which was obtained before. This must be done four or five times, until it is found that when boiling water is poured upon the dried sugar it dissolves completely, no flocculi of casein being seen in the solution. The casein residue is then, after being dried, treated once or twice with boiling water, to wash out any sugar that may have been left in it, care being taken that none of the solid casein is poured off with the matter dissolved. This sugar is added to that formerly obtained, and the two substances are then ready for the final drying, which must be done over the water-bath, and continued until they

cease to lose weight sensibly. The two residues are then incinerated over the blast-flame, and the loss in the burning gives the weights of the casein and sugar.

The only error that strikes me as possible in this method is that a small portion of soluble albumen may be classed as sugar. I do not think, however, that this occurs, for I have tried in every way to separate such a substance from my sugar residue, and never succeeded in obtaining any appreciable quantity. The method possesses many advantages: it is more exact than any other I have tried, the loss being usually only a small fraction of one per cent.; then it should be valuable as offering a scientifically exact but rapid method of determining the amount of fat. The exact amount of fat in any given sample of milk can be determined in at most half an hour to an hour. When a full proximate analysis is made, the process is very tedious, taking from three to five days to be completed. If, however, it is not necessary to separate the casein and sugar,—as is the case in examining commercial milk, an analysis can be completed in about three or four hours. The pouring of milk into the street, as has lately been done in some of our cities, because it failed to show a certain specific gravity when tested with the lactometer, is a great outrage; for an analysis which will show the amount of water, fat, and ash is the only true test of milk. The idea of separating the fat by means of ether and alcohol was suggested to my mind by the perusal of an article by E. J. Hallock (*American Journal of Pharmacy*, October 1, 1874). The use of reagents in the proportions suggested by him, however, fails to effect the purpose, as any one can see who will try the process; for the oil-globules are set free instead of being dissolved in ether, as happens when my proportions are used, and they only partially rise to the top, many becoming entangled in the meshes of the coagulated casein and remaining thus distributed through the fluid. The method I propose also extracts the fat more perfectly than that used by chemists generally, of extracting it with ether from the dried residue. This I have proved by actual experiment, taking two samples of the same milk. When the fat was extracted from the dried residue of 10 c.c. of milk, 270 milligrammes. This difference is large enough to be a matter of great importance where such small quantities are used as is often the case in milk analysis.

In calculating results it is easiest to bring the amount of each constituent up to what is contained in 100 c.c. This is done by multiplying the amounts of water and ash by twenty, as they are arrived at by the use of 5 c.c., and those of fat, casein, and sugar by ten, as they are arrived at by the use of 10 c.c. of milk. The sum of the amounts of the different constituents will be found to be from one hundred and one to one hundred and three, as the milk happens to be of high or low specific gravity. A use of the simple rule of three enables one easily from this to calculate the quantities in parts of one hundred (percentage). I append five analyses of human milk, which I have made with great care, and which I believe to be as nearly correct as may be :

Water.....	87.106	87.695	89.038	83.001	87.306
Fat.....	4.370	3.682	2.412	9.045	4.498
Casein	1.268	.938	.730	.787	1.083
Sugar.....	7.120	7.568	7.703	7.069	6.996
Ash.....	.136	.117	.117	.098	.117
	<hr/>	<hr/>	<hr/>	<hr/>	<hr/>
	100.000	100.000	100.000	100.000	100.000

The error in these analyses was, in No. 1, seventy-eight thousandths of one per cent. in excess ; in No. 2 there was no error ; in No. 3 the loss was forty-eight thousandths of one per cent. ; in No. 4 there was a loss of forty-nine thousandths of one per cent. ; and in No. 5 there was twenty-nine thousandths of one per cent. in excess.

Condensed milk, in my opinion, enjoys its high reputation as an infant food because, when used as it commonly is, the proportions of casein and sugar approximate more nearly to those contained in human milk than in the usual dilutions of cow's milk ; and it fails because it gives the infant too little fat, and because no preserved food can be so good as the same substance when fresh. Another grave objection to its use is that as children get older the quantity given them is increased, and they get much too large an amount of saccharine food, and become very fat, the fat being soft like that of persons who drink too much malt liquor.

In conclusion, I will reiterate that the result of my experiments has been to convince me that human milk contains only about one-third as much casein as cow's milk, and that in order to make the

latter a proper food for infants we must dilute it with water and add cream and sugar. The main object of this paper has been to state my conviction that human milk never contains more than the quantity I have so often mentioned of casein; and this observation I consider as new, for, although Henri and Chevallier and some other writers have before arrived at nearly the same analytical results, yet I know of no one who has stated that human milk contains only this quantity, and never more, thereby denying the correctness of most previous analyses. If time proves my view to be correct, I think it must make a change in the views of the profession upon the proper mode of feeding infants. On some future occasion I hope to publish precise directions as to my view of the proper combination of cow's milk, cream, water, and sugar, to be used as food for new born infants.—*Philadelphia Medical Times*.

A MOST RARE CASE. RUPTURE OF THE CORONARY ARTERY; WITH OBSCURE SYMPTOMS AND DEATH.

By H. W. LILLY, M.D., Fayetteville, N. C.

I notice in a recent number of your valuable journal an account of a case of death from rupture of the heart, reported by Dr. Neill MacLeod, of Shanghai. As stated in this report, unusual interest was given to the case by the obscurity of the symptoms prior to death, and by the well marked post mortem appearances.

The lesions discovered remind me of a case that once came under my observations, and which, in some respects, bears a resemblance to Dr. MacLeod's. In my case, too, there were no definite symptoms during life, and the post mortem developments were interesting and unusual. If you will kindly accord me a little space in your journal, I will briefly relate, partly from memory and partly from a short account in my note book, the history of this case.

A few years ago, I was resident physician at the New York Work House, an institution, which, to the physician in charge, affords as good an opportunity for pathological study as for clinical instruction, if not better, since a great many of the acute cases admitted

into the hospital are so prostrated by the exposure of drunkenness, and often, sad to relate, by the inhuman use of a policeman's club, that they frequently resist the most careful medical treatment, and soon pass from the Ward to the Dead-House. We, therefore, learned to take special interest in morbid anatomy.

The patient I have reference to now, a big, broad-shouldered, strapping looking fellow, fifty years of age, with a ruddy looking countenance, came from the city one morning with the "gang" sent to the Work House on a charge of drunkenness.

Before being put to work, he was placed with the others in a large cell for safe keeping, as was customary with all new arrivals, or "Mar'a men," as they were called. When about to be sent to his work, he informed the officer in charge that he was sick, and desired to see the doctor. I was summoned, and on seeing my patient with his stout healthy-looking bearing, I was disposed to smile and turn him over to the keepers with the advice that a little hard work would soon remove all his ailments. In fact, I was induced to consider him a fit representative of the class of malingerers that beset us there almost every hour in the day. But he insisted that he was suffering with a severe pain in the breast, and was unable to work. Feigning disease was at that time reduced to a science, and I was inclined, therefore, to doubt him, but determined to give him the benefit of a thorough examination. Upon applying the stethoscope to the chest, I heard a confusion of sounds that took neither the form of defined râles, nor of any of the usual auscultatory signs. No disease had ever before manifested itself to my ear in that way.

The respiration, I discovered, was rapid, somewhat labored and unusually shallow and weak for a stout broad-chested man. The pulse, in both radials, was quick and intermittent at every third pulsation. On percussion, the resonance was good over all parts of the chest. He was removed to the hospital for more extended examination and treatment. Nothing further; however, was discovered than the radiating pains over the chest; shallow interrupted respiration; weak, intermittent pulse; an uneasy, anxious countenance, a disposition to assume the sitting posture, a furred tongue and limbs tremulous from drink. The thermometer in the axilla gave a normal temperature. The patient gave no history of previous disease. He was especially interrogated, in regard to lung

troubles, but he had never suffered with anything referable to the chest. He admitted having a venereal sore ten years ago, but presented no evidence of syphilis. Opiates were given to relieve pain and the bromides to quiet the nervous system. He was induced to take a little nourishment. This observation was at 10 A. M.

At 1 P. M. I was called and found the patient worse, with a feeling of great depression over the præcordial region, urgent dyspnœa and threatened syncope. I had the head lowered, applied heat to the extremities and gave brandy hypodermically. This treatment revived him somewhat, and, having duties, elsewhere, I left him breathing more tranquilly and with the pulse much improved in strength.

At 2 P. M. I received word that the patient had died suddenly. The nurse informed me that after my departure he remained in about the same condition in which I left him, breathing quietly and complaining of no pain in the chest. But that having lain thus for some time, he suddenly raised himself in the bed, grew black in the face, and giving a cry, like that in the epileptic *aura*, fell back gasping for breath. After few labored inspirations, he passed away. Post mortem at 10 o'clock A. M., next day.

Cadaveric rigidity well marked, ecchymotic patches being diffused over nearly the whole circumference of the body. Several deposits of caseous matter marked the apex of the left lung; the right healthy. The abdominal viscera all presented a normal appearance. An incision into the pericardium gave exit to a quantity of bloody serum; and, on inspecting the interior of the sac, lumps of coagulated blood were found here and there. The interesting point to discover now was the source of these coagula, which were evidently due to an ante-mortem hæmorrhage. The clots were carefully removed and the pericardial sac sponged out until all the parts were brought clearly into view. The heart and the vessels were left *in situ*. Careful inspection of the heart showed it to be healthy and free from any laceration or injury. The *veræ cavæ*, aorta and pulmonary artery were then severed, and the heart freed from all its attachments was laid upon the table for closer scrutiny. An incision was made into its substance, exposing the valves of the ventricles and the semilunar valves.

The valves all seemed healthy except the semilunar valves (of the

aorta), which were the seat of vegetative growths, and the neighboring part of the artery was soft and atheromatous. This led to a closer inspection of the arteries of the heart. The pulmonary artery and the two cavæ seemed healthy and sound, but on noticing carefully the coronary artery of the right side, small yellowish-white, irregularly distributed, superficial patches were seen scattered along its outer coat, some of them involving the connective tissue of the inner coat ; but for the most part, being easily removed with the point of a scalpel. Following the vessel to its origin in the aorta just above the semilunar valves, we found the degenerating process still more marked, and furthermore that it had here involved the thickness of all the arterial coats, producing a rent in the vessel parallel with its course, and about one-sixth of an inch in diameter. Here then was the source of the hæmorrhage and the cause of death.

During the last day of the man's life, blood had been oozing from this little opening ; at times, probably, the blood would be checked by the coagula at the mouth of the rent ; but it would break forth again and finally caused death, not by the loss of blood, but by its action as a foreign body in the pericardial sac, giving rise to nervous disturbance, and directly impeding the action of the heart.

Other arteries were thereupon examined, especially those of the brain, and several were found to be the seat of similar disease. The middle cerebral artery of the left side and one of the meningeal vessels showed disease in almost a similar form, white patches of a caseous-looking substance involving their outer coats at varying intervals. There must then have been some systemic disease to account for this morbid condition of the blood-vessels. Van Buren and Keyes (*Genito-Urinary Diseases with Syphilis*) mention atheromatous degeneration as one of the sequelæ of syphilis. It is possible, therefore, that this case might have been an example of remote syphilitic lesion, since a history of venereal disease was obtained from the patient, though, it is true, no active symptoms of syphilis were present. -


I thought this to be a unique case. If for no other reason, the unusual character of the post-mortem lesion should entitle it, I think, to some consideration. There is no other case on record, as far as I am aware, of death from rupture of the coronary artery. — *Gaillard's Medical Journal.*

EDITORIAL.

NORTH CAROLINA MEDICAL JOURNAL.

A MONTHLY JOURNAL OF MEDICINE AND SURGERY, PUBLISHED
IN WILMINGTON, N. C.

THOMAS F. WOOD, M.D., Wilmington, N. C., Editor.

 *Original communications are solicited from all parts of the country, and especially from the medical profession of THE CAROLINAS. Articles requiring illustrations can be promptly supplied by previous arrangement with the Editor. Any subscriber can have a specimen number sent free of cost to a friend whose attention he desires to call to the JOURNAL, by sending the address to this office. Prompt remittances from subscribers are absolutely necessary to enable us to maintain our work with vigor and acceptability. All remittances must be made payable to THOMAS F. WOOD, M. D., P. O. Drawer 791, Wilmington, N. C.*

FUNERALS OF PERSONS DEAD WITH CONTAGIOUS DISEASES.

Year by year funerals are more ostentations. There seems to be a rivalry in this matter, whether incited by undertakers or by the superstitious attentions, or more exacting demands of society it is not material to discern. In one point of view attention to the dead is sometimes little short of idolatry, and in most all cases the sorrowful emotions of friends lead them to do things, that they would consider it cowardice, or lack of proper respect, to neglect. These are among the motives which will bring about large attendances at funerals.

Our attention has been recently called to a most hazardous disregard of the ordinary precaution against the communication of contagious diseases by the dead. The daughter of a former resident of this city, died in Richmond, of scarlet fever, and was brought here for interment. The disease was announced in the funeral notice inviting friends and acquaintances to attend, and the usual

number of persons, men, women, and children, were present, utterly disregarding the risk to which they were subjecting themselves.

Fortunately no cases have resulted from it so far, but it was running a needless risk. Such violations of the plainest rules of prevention of disease should not be allowed by the authorities. If there is no authority on the subject, there ought to be. If people will not think for themselves, then the strong arm of a wise law should perform all that is necessary to protect the thoughtless and unsuspecting.

The State Board of Health has sounded the warning on this subject time and again, but nothing but an actual disaster will impress the lesson sufficiently.

THE NATIONAL BOARD OF HEALTH.

It is a great pity that some politicians are so unwilling to keep their hands off when scientific matters are at issue. They can't understand the slow growth of all scientific work, and so they are willing to hamper and cripple. We had hoped that if they would not aid the National Board of Health, they would at least permit it to live. They do not know, and we presume they do not care, that the large body of sanitarians all over the country are satisfied with the ability of the members of that Board, and that they have been greatly helped in their work by the investigations made, and the statistical records kept, to say nothing of the efficient work done towards the arrest of the spread of epidemic disease.

The speeches made in Congress show great disregard of the facts, and lead to the inference that the working of the Board has interfered with some plan that the speakers held dearer than any proposed by the National Board.

The truth is the Board has worked under the greatest difficulties. Without any precedent to guide them, they have been obliged to undertake the investigation of sanitary matters over a vast extent of territory, and at the same time lay a foundation for the work of the future.

They have wisely selected the very best scientists to carry on investigations. They have spent the money appropriated with a frugal hand. They have aided State Boards of Health as far as they were permitted by law. They have put on foot scientific investigations of such eminent utility, as that the outcome will be the standards in future sanitary practice. They have avoided all unnecessary interference in the local direction of sanitary matters. In all things they have been prudent; and especially in science thorough and exhaustive.

These politicians speak of the work of the National Board of as though it were a scheme of the doctors. It is true the majority of the inaugurators of the movement which lead to its foundation was medical men, still there were men of all other professions, except the professional politician. The work undertaken was for the whole country, and for this object the Board have worked diligently.

For our part we would rather see the Board wiped out than to see it starved out. If sanitary work in the United States must be put back half a century by the servants of the people, who ought to be intelligent enough to foster it, all well and good. Those of us who have invested time, labor and money in it can direct our attention to something very much more profitable, and quite out of the reach of the machinations of ignorant politicians.

A PRACTICAL HINT IN RELIEVING NARROW STRICTURE OF THE URETHRA.

It is often possible to relieve difficult strictures when the operator has at his command a supply of filiform sounds, and other improved appliances. But place him at the bed-side a stricture case, with only such every-day appliances as the general practitioner in the country has at his command it is not so easy a matter.

Recently a case was relieved by the following plan: The patient, an elderly gentleman, suffering with scirrhus of the penis, and a very contracted and unyielding urethra; had a fistulous opening

behind the glans; his bladder was painfully distended. An attempt was made to pass a No. 1 English gum catheter and failed. A filiform sound was successfully entered to the bladder, but all attempts at dilatation by passing other sounds failed. It then occurred to the doctor that it would be a good idea to slip an elastic catheter over the filiform sound. The end of a No. 2 was cut off and slipped over the sound, but it only pushed it further in the bladder, while it prevented the flow of urine through the tube. The catheter was withdrawn, the filiform sound still remaining. It was now suggested to attach a waxed flax thread to the sound, by a c'ove hitch, pass the thread through the tube of the catheter, and holding by the end of the thread, slip the catheter down into the bladder. This plan succeeded admirably. Now the filiform was withdrawn by the thread, and the bladder was relieved.

The thread could be dispensed with if the sound was twice the usual length; or as suggested by Dr. F. E. Daniel, of Mississippi, a fiddle-string of sufficient length, would answer the purpose as a sound and be more accessible in an emergency than filiform sound.

CHEMICAL METHODS IN USE FOR THE DETERMINATION OF ORGANIC MATTERS IN POTABLE WATER.

Under the direction of the National Board of Health, Prof. J. W. Mallett, of the University of Virginia, has been investigating the relative value of the three methods now in use for the determination of organic impurities in drinking water.

Notwithstanding the fact that chemists have settled upon one or the other of these methods, it was because they were considered the best known, and not because of their absolute certainty.

Prof. Mallett has embodied in his report to the National Board of Health,* the researches he has made, and from them he has drawn practical conclusions. Much of the report will interest the practical chemist, but it is not intended for him alone.

*National Board of Health Supplement, May 27th, 1882.

"If I had entrusted to me the charge of watching a large city water supply," says Prof. Mallett, "I should have all three of the principal processes for the examination of organic matter present; each gives a certain amount of information which the other do not afford. Under circumstances admitting only of the use of simpler means of investigation, the albuminoid and permanganate processes might be employed together, but in no case should one only of these methods be resorted to, such a course entailing practically the neglect of carbon on the one hand or nitrogen on the other."

As to the standard of purity of drinking water, Prof. Mallett says: "There are no sound grounds on which to establish such general 'standards of purity' as have been proposed, looking to exact amounts of organic carbon or nitrogen, 'albuminoid ammonia,' oxygen of permanganate consumed, &c., as permissible or not. Distinctions drawn by such standards are arbitrary, and may be misleading."

Then he continues: "Two entirely legitimate directions seem to be open for the useful examination by chemical means of the organic constituents of drinking water, namely, first, the detection of *very gross* pollution, such as the contamination of the water of a well by accidental bursting or crushing of soil-pipes, extensive leakage of drains, &c., and, secondly, the periodical examination of a water supply, as of a great city, in order that, the normal or usual character of the water having been previously ascertained any suspicious changes which from time to time may occur shall be promptly detected and their cause investigated. In connection with this latter application of water analysis, there seems to be no objection to the establishment of local 'standards of purity,' for drinking water, based on sufficiently thorough examination of the water supply in its usual condition."

In concluding his report, he points out the course that future investigation could profitably be pursued, combining the biological and chemical study of the water of several large cities. So far the report only succeeds in pointing out the defects in the old methods, and making suggestions for the development of a perfect one for the future. Chemists will all agree, notwithstanding, that the employment of the old methods, if corroborating each other, is about as much exactitude as organic analyses usually accomplish.

We trust that the means will be forthcoming to complete this necessary and valuable work.

REVIEWS AND BOOK NOTICES.

ATLAS OF GYNÆCOLOGY AND OBSTETRICS, Edited by Dr. A. MARTIN, Professor of Gynæcology at the University of Berlin. Containing 475 Black and 37 Colored Illustrations, from the Original Designs of 92 Authors. Supplemented by Numerous Illustrations from J. P. Maygrier's *Nouvelles Demonstrations D'Accouchements*. A. E. Wilde & Co., Publishers, Cincinnati, Ohio.

The 15th and concluding fasciculus of this work, according to the prospectus of the publishers was completed promptly in June. We noted the issue of the first five fasciculi, but we are now better prepared to convey to our readers a true estimate of its value.

The entire work is a handsome specimen of typographic art, which few publishing houses in this country could equal. The illustrations are drawn with great fidelity, and are executed with artistic skill. The side of the atlas is 17x22 inches giving ample room for engravings sufficiently large to bring out all the details, and in this respect superior to any work heretofore issued from the American press, while the technique of the illustrations falls below Savage. The coloring in the 35 colored illustrations is rather of unequal value, heightening somewhat the effect, but hardly necessary to bring out the uniformly excellent drawings.

The descriptive text is little more than an explanation of the plates, and in binding will appear opposite the appropriate figures. But the descriptions are sometimes extended, and always sufficiently so in obstetrical procedures. For instance, in explanation of transverse presentations the diagnosis of this presentation is clearly laid down, and in a way that serves to make an understanding of the illustrations easy.

The anatomy of the arteries of the uterus, and of the impregnated uterus, after Hyrtl, is a good specimen of the manner in which anatomical subjects are treated. We there have the anatomy of the normal uterus, and a colored figure representing an injected specimen of the pregnant uterus, bringing to the reader's mind at once the physiological changes during pregnancy.

Perhaps we are too precipitate in giving an opinion of a work which requires to be examined carefully after the binder has finished

his arrangement, but we believe that the addition of this volume to one's library, will be of great importance to all who have not access to better works than our best text-books. In fact this volume has the advantage of being an eclectic one, the editor, Dr. Martin, having brought together the best illustrations from such masters as Hyrtl, Hodges, Rokitsansky, Froriep, Hunter, Moreau, Curveilhier, Coste, Tiedemann, Lebert and more than eighty others, and we have here collected the cream of the illustrations of the men who have made obstetrics and gynecology a science.

We are particularly gratified with the position that all of Dr. Hodges work has maintained during all these wonderful changes which have been going on in these departments of medicine. It has not been at all popular of late years to regard Dr. Hodges teaching with the due weight which appertain to them. But the reaction which is fast coming on is again demonstrating that he was far in advance of his day.

Messrs. Wilde deserve to find a remunerative sale for their work, as they have done their part of the work to perfection.

TENTH ANNUAL REPORT RELATING TO THE REGISTRY AND RETURN OF BIRTHS, MARRIAGES, AND DEATHS, IN MICHIGAN FOR THE YEAR 1876. By the Superintendent of Vital Statistics, Under the General direction of the Secretary of State of the State of Michigan. Lansing: W. S. George & Co., State Printers. 1881. Pp. xxiii—332.

It is difficult to appreciate the value of such a work. The science of statistics is studied by very few persons, and yet nothing can be of more service to the sanitarian than a thorough knowledge of all the methods in vogue. While statistical registration is the basis of all good sanitary work few States have taken any pains to organize a bureau of vital statistics, Michigan and Massachusetts are the only States we believe, although several large cities have done good work in this direction. Dr. Henry B. Baker, the Superintendent of Vital Statistics has had this work in hand many years, and we congratulate him upon the thorough manner he executes it from year to year. He is really doing pioneer work for embryonic Boards of Health, and he is laying a broad foundation for them. The State of Michigan has done her part wisely, in

sustaining with an unfaltering and generous hand, the work of sanitation and statistics.

We will not attempt to give our readers an outline even of this volume. It abounds in tables showing everything of interest as to births, deaths, and marriages.

We note that in five years the illegitimate births in Michigan was only .75 per cent. of mothers of illegitimate children, to all mothers. That the time of greatest mortality is August. The season of greatest mortality from pneumonia is February to April. That there are only 280 negroes and mulatto children born in the State, and that the per centage of black and mulatto mothers of illegitimates to all mothers is 10.11, and of the Indians 6.47.

We commend the volume to every one who has any talent for getting pleasure out of statistics, and to all Boards of Health.

THE VEST-POCKET ANATOMIST. (Founded upon "Gray.") By HENRI C. LEONARD, A.M., M.D. Eleventh Revised Edition. Price 75 cents. Detroit: The Illustrated Medical Journal Company, 1882.

This little manual of 82 pages is Gray's Anatomy condensed. It is very useful for medical students, and many editions have been exhausted.

BOROGLYCERIDE.—This promises to a most useful and convenient substance for use as an antiferment, antiseptic, &c., particularly for the preservation of fruit-juices, (cider, juices for syrups and the like) having the advantage of not spoiling the flavor. It will also preserve animal juices, broths, &c.

It is prepared by heating 92 parts of pure glycerine to about 302° F., and adding 62 parts gradually, of pure boracic acid in powder. A five pounds mixture requires a day to complete. It should be moulded in two ounce cakes like camphor-ice, and wrapped in wax paper and tin foil, to prevent hydration. Thomas D. McElhenni, in *Journal of Pharmacy*, July, 1882.

CORRESPONDENCE.

NASAL CATARRH.

WILMINGTON, N. C., June 20th, 1882.

Mr. Editor:—I have been treating, recently, an old and obstinate case of nasal catarrh, with ozæna with iodoform dry, and by insufflation anteriorly. The fetor has been corrected, not by substitution, but by antiseptis and the alteration of the morbid, chronic condition of the mucous membrane. Healthy actions seems to have set in and much encouragement is offered to continue the treatment in this, always an obstinate affection. Niemeyer's Emulsion of Cod Liver Oil, &c, is given internally. I hope some of my professional brethren will be induced to try this "odoriferum", the popular antiseptic of the day.

Yours,

W. J. H. BELLAMY, M.D.

THE MEDICAL COLLEGE ASSOCIATION.

Notwithstanding this Association has so far failed to show any practical progression, but rather a steady retrogression, the individual members have not forgotten the basis of progressive medical education in this country.

At their Cincinnati meeting, Dr. Roberts introduced the following resolution which was adopted :

Resolved, That the efforts in behalf of the proper education of medical men, made by the State Boards of Illinois, Alabama and North Carolina are such as merit the hearty approval of the entire medical profession. In these States the strong arm of the law is made to protect the public from much ignorance and charlatanism.

None of these gentlemen seem to remember that North Carolina has inaugurated and sustained a Board of Examiners for twenty-five years and is, therefore, foremost and not last in this movement.

TRANSLATIONS.

By WM. G. EGGLESTON, M.D., Hampden Sidney, Va.

THE OVARY AND ITS SEAT.—M. Féré has lately settled affirmatively the long mooted question as to the true seat of ovarian pain; showing by a series of experiments that it is in the ovary. Profiting by the physiological ascent of the ovary during pregnancy, he discovered that the painful spots ascended parallel to the ovaries.

A more important verification was made during the uterine contractions of labor. On the left side where the ovary is more accessible on account of the rotation of the uterus, a small ovoid tumor, as large as the end of the thumb, was found, movable and gliding on the resisting surface of the contracted uterus. Pressure on this little tumor produced the ordinary phenomena of pressure on the painful ovarian point. During the entire duration of labor and subinvolution of the uterus, the ovarian points gradually descended, and only become stationary when the uterus attained its normal dimensions, and the ovary its habitual situation.

It has been still further demonstrated, pathologically, by M. Baraduc. In a patient, very neuropathic and suffering from retroflexion so pronounced that the finger introduced into the vagina, could feel the two ovaries above the lateral cul-de-sac, pressure exercised by the intra-vaginal finger on the ovary produced pain clearly ovarian. After reduction of the retroflexion pressure at this place produced no pain, the ovaries having regained their normal position.—*Revue Méd. Franc. et Etrang.*

INDIAN HEMP IN DELIRIUM TREMENS.—M. Villard reports in *le Progrès Méd.* of Feb. 19, the case of a man of 48 with delirium tremens, in whom, neither chloral nor opium had any good effect. Extract of thebaïæ was no better.

In order to obtain hypnotic effects the dose must be large. Small doses only produce exhilarating effects. In delirium tremens, as in other cases demanding cannabis indica, the principle laid down by West should be conformed to. Consult the tolerance of the patient and do not commence with small doses to be gradually increased. Haschisch has not been given much for this disorder in France, but there are some interesting observations reported, the

results of which warrant a more general use of it. Donaud (of Bordeaux) reports a case treated successfully by the tincture. It was given in doses of gtt. xx every four hours. The delirium diminished, and the case quickly recovered. Tyrrel relates a case in which three successive attacks were relieved by the tincture.—*Idem.*

PHYSIOLOGICAL ACTION OF INDIAN HEMP.—After taking the drug, one feels a sensation of warmth over the whole body; the pulse becomes fuller and at the same time a little slower; the mouth becomes dry; the pharynx contracts, the œsophagus and stomach participating in this contraction; nausea and vomiting are produced, and aphonia succeeds the spasm which accompanies a marked diminution of respiration.

The general sensibility is but little influenced by absorption of the drug; but the impression on the locomotive apparatus is marked. There is at first almost incessant desire to walk about, then twitchings and partial contractions of the muscles, principally of the flexors. Still later, cataleptic or choreic pneumonia are produced.

The urine is increased, with a distinct odor of hemp. The salivary secretion diminishes when the sudorific action is manifested.

One after another has vaunted Indian hemp as aphrodisiac and anaphrodisiac according to the size of the dose. As in case of the muscular system, its action on the genital system is stimulating in small doses, and sedative when increased. This last action has been utilized to remedy the painful nocturnal erections of blenorragia; the stimulating action being also used in menorrhagia and as an oxytocic.

The ear acquires under its influence a specially marked susceptibility; a discordant sound being very disagreeable, though it will be captivated by music.

Topical application produces no effect on the pupil, though it contracts after the absorption of a moderate dose.

When the dose is sufficiently large the nervous system is excited and the intellectual faculties become unusually active. It then produces a gay delirium rambling from one thing to another according to the character and passions of the individual. These illusions or hallucinations are of such a nature, as Moreau (of Tours)

observed, that all the sensations are transferred, ideas being looked upon as palpable, tangible material objects.

After that period of excitation, of which the duration is variable, comes a sweet, peaceable, profound sleep. On awakening, the intelligence has returned to its normal state, as has, generally, the rest of the organism.

POSOLOGY OF INDIAN HEMP.—The active principle seems to be the resin *cannabine*. The essence has not been isolated, though Gubler thinks that the virtues are due to its essence and its resin. The best preparations are the extract and the alcoholic tincture. The preparation most used in England is the tincture made of

Extract of Indian hemp, 1 part.

Alcohol 20 parts.

Dose for an adult, gtt. 20—40 a day.

Alcoholic syrup of (Lanneau).

R. Cannabine, 20 centig.

Absol. alcohol, 20 gtt.

M. Simple syrup (at 35° C) 40 gm.

Anti-chordee powders.

R. Ext. Indian hemp, 0 gm. .05 centig.

Lupuline, 1 gm., 50 centig.

M. Sugar, q. s.

Divide in chartas no. ij, to be taken during the evening.

Drink in chordee.

R. Warm infusion of chamomile, 96 gm.

Simp. syrup, 35 gm.

M. Tinct. cann. ind., 40—50 gm.

S. Teaspoonful every five or six hours.

Anti-menorrhagic drink.

R. Tinct. cann. ind., 2 gm.

Simp. syrup, 30 gm.

M. Water, 120 gm.

S. Teaspoonful every five or six hours.

THERAPY OF INDIAN HEMP.—I. *Nervous Diseases.* *a.* It has been employed as an anodyne and hypnotic in *hysteria* by the lamented Gubler.

b. Moreau, of Tours, has used it advantageously in *epilepsy*. [Dr. Wharton Sinkler, of Philadelphia, has employed it with success in doses of gr. one-sixth, of the solid extract *t.i.d.*—*Quarterly Epitome*.]

c. O'Sanghuessy, (O'Shanghnessy, I suppose is meant) has had marked results from its use in *infantile convulsions*.

d. Three cases of recovery from *chorea* have been reported by Carrigan. Walshe reports favorably concerning its use in the same disorder. Villard reports two recoveries.

e. It has been repeatedly employed in *tetanus* by Miller (of Edinburgh) Heister, Hodgson, Gaillard and Saussure, E. W. Sheel, etc. Villard has collected twenty cases in which it was used with seventeen recoveries. [Dr. John C. Lucas recommends that the dried leaves, mixed with about three times the quantity of tobacco, be smoked. The patient is then left quiet and smokes again on the first indication of a spasm. He claims that (1) the spasms are cut short. 2. They reappear at longer and longer intervals. 3. They become less severe as well as less frequent. 4. This saves the vital powers. Khasligin, of India, has used the method successfully in five cases of traumatic tetanus.—*Quarterly Epitome*. It would seem that the solid extract properly dried could be used in the same manner.—TRANS.]

f. Moreau had no success with it in *melancholia*. In *mania* seven recoveries are reported. Polli (of Milan) obtained a rapid recovery by its use in a case of *lypemia* when opium gave no good result. [He also recommends it as palliative in *hydrophobia*.—TRANS.] Clouston considers a mixture of bromide of potassium and cannabis superior to all other remedies in *mania*.

g. In *delirium tremens*, cannabis seems more advantageous than opium in that it does not constipate. Beddoë has used it successfully in 18 cases.

h. Cannabis has been employed in *neuralgia* with various results. Donovan cites numerous cases of *sciatic*, *cranial*, *facial*, *dental*, etc., neuralgia cured by it. Corrigan was successful with it in an obstinate case of *tic douloureux*. Ruhbaum has obtained most satis-

factory results with it in more than 30 cases of *tic*. [James Stewart, Ontario, has used it in fifteen cases of true hemicrania with three cases cured, six markedly relieved, three cases no effect, and two in which it was injurious. At the Middlesex Hospital, female patients who had suffered for many years from sick headache, were greatly benefited, if not cured, by the administration of 10 minim doses of the tinct. *t. i. d.* Lathrop, of Buffalo, advocates its use in persistent hemicrania. The principle laid down by Greene was "to maintain, by the use of small doses of the agent, a constant influence upon the nervous system for a long time, the same as is required in epilepsy by the use of bromides." He says that it is well to commence with gr. $\frac{1}{4}$ of the extract before each meal, for the first fortnight. Increase, if necessary, to gr. $\frac{1}{3}$ for the second fortnight and augment to gr. $\frac{1}{2}$ at the end of four weeks. It should be continued for several months.

James Stewart, above quoted, says that as the hemp is a vascular dilator it is indicated in those cases where there is arterial spasm and not in the neuro-paralytic variety where there is dilatation; but thinks that ergot or strychnia are indicated in these. He thinks that cannabis is indicated in those cases in which nitrite of amyl relieves the paroxysm.—*Quarterly Epitome*.]

II. *Epidemic Diseases*.—Aubert-Roche, believing that the *plague* results from a lesion of the great sympathetic, a neurosis of that nerve, has used haschisch with seven recoveries in 11 cases.

It has been used in *cholera* but with doubtful success, though in a mild epidemic in India, the results were good. Whimin, sanitary physician in Egypt, had six recoveries in ten cases, with haschisch. He thinks that it acts by stimulating the nerve centres when their influence is almost exhausted.

III. *General Diseases*.—Dr. Wood, of Kentucky, considers cannabis an almost infallible remedy in *dropsy* on account of its diuretic and diaphoretic properties. In *asthma* the results from it have not been good. Fumigation with it in phthisis has been tried but without advantage.

In the *catarrh of old persons*, with accumulation of mucus in the bronchi and consequent dyspnoea. Dr. Warren Curran has prescribed cannabis with success. Gairdner, of Calcutta, confirms this.

IV. *Diseases of the Genito-Urinary Organs*.—Indian hemp has

been employed in a large number of uterine affections, but principally in the various troubles of menstruation. The tendency among physicians seems to be to administer it when the element of pain predominates. Heywood has found it advantageous in *amenorrhœa* when painful, and *dysmenorrhœa*. West prefers it to opium in *cancer of the uterus*, as it does not produce the digestive troubles seen in using opium.

Magniez, of Castle Knock, and Churchill ordinarily employ it in *menorrhagia* and *metrorrhagia* of ordinary severity, and have had success with it in grave cases. The latter believes that it would be advantageous in metrorrhagia threatening abortion: gtt. v of the tinct. three or four times a day.

Michel uses it in *post partum* hemorrhages in preference to ergot. Chieston thought it preferable to ergot as an oxytocic because: 1. Ergot is slow, while cannabis produces its effects in two or three minutes. 2. The action of ergot, slow to commence, is prolonged, while that of hemp is limited. The action of cannabis is more energetic and more certain than that of ergot.

Villard thinks that, administered when the os will admit the finger, it will lessen the duration of the labor and also act as a sedative.

Donovan in a paper presented to the Obstetrical Society of Edinburgh says that he has used it with success in *post partum* hemorrhage *after ergot had failed*. At the same time he speaks of its utility in metrorrhagia; and Duncan confirms its use in all these cases.

Its efficacy in *bleorrhagia* is unquestioned, especially when accompanied by painful erections.

It enjoys a certain reputation in England in the treatment of Bright's disease, and according to Ringer is particularly indicated in *hematuria*, *dysuria*, and *strangury*.—*Idem*.

CHRYSOPHANIC ACID INTERNALLY FOR PSORIASIS.—Dr. Napier presented to the Glasgow Medico-Chirurgical Society two cases of psoriasis treated with chrysophanic acid. The initial dose of one-eighth grain was given rubbed up with sugar of milk, the dose being gradually increased. The results were good. This is the first report of the internal administration of this drug.

NOTES.

THE estate of the late Charles R. Darwin, is valued at upwards of \$700,000—(£146,000). He leaves his son, Francis, his scientific library.

LIGATION OF THE INNOMINATE.—Mr. Thompson, of the Richmond Hospital, Dublin, ligated the innominate on June 9th, and the patient continues in a satisfactory condition. A portion of the ligature came away through the sinus on the eighteenth, and another on the twentieth day.

A TOUGH PLACENTA AND A TOUGH WOMAN.—At a late meeting of the London Obstetrical Society (June 7th) Mr. Hopkins Walters exhibited an uterus, with one ovary and Fallopian tube, and a piece of omentum, that had been torn away by a midwife in the attempt to remove an adherent placenta. The patient made an excellent recovery.

NERVES AS LIGATURES.—Dr. Wyeth, of New York, has ligated the common carotid artery with the sciatic nerve of a calf. He also ligated the carotids of a horse and a greyhound with the same material. Post mortem examination showed that the artery was occluded, but that its continuity was unbroken, there being simply a depressed ring at the point of the ligature.

FLUID ARTIFICIAL DRUM.—D. J. Michael (*Berl. Klin. Woch.*) observed that in cases of perforation of the ear, that the hearing was slightly improved after some fluid had been injected in the ear. He made this idea practical by injecting sufficient glycerine into the ear and sealing up the same with collodion. This fluid artificial drum lasts about eight days when it is renewed.—*Cincinnati Lancet and Clinic*.

THE antiseptic treatment of phthisis, revived by the announcement by Koch of his *bacillus* theory, takes up a large part of the last number of the *British Medical Journal*, of July 1st. Fashions in physic are followed out with as much furor by doctors, as the

women show for dressing. Some grains of truth we may get out of it, but there will be a huge collection of second-hand trumpery to destroy before we will be able to see it.

TO TEST FOR IODINE IN THE URINE.—After dressing wounds freely with iodoform, iodine frequently appears in the urine. The *Bulletin Générale de Therapeutique* gives the following simple test: A little chloroform is added to the suspected urine in a test tube. One or two drops of nitric are added and the mixture shaken. Iodine will be set free, and dissolve in the chloroform, and be found in the bottom of the test tube presenting a beautiful violet color.

A RIVAL OF COFFEE.—The cola nut, (Gourou or Ombene seeds of *Sterculia acuminata*, Pal. De Bavois), according to the analysis of Weckel and Schlagdenhauffen, contain 2.348 per cent. of caffeine in a perfectly free state, exceeding the amount found in the most esteemed varieties of coffee. It also contains 0.023 per cent. of theobromine, which increases the properties of the caffeine and acts synergetically with its active principle—*American Journal of Pharmacy*—*Rep. des Pharm.*

KORONIKO—A NEW REMEDY FOR CHRONIC DYSENTERY.—Koroniko, from *Vernica parviflora* is reported by Dr. J. Jardine (*Med. Times and Gaz.* from Chinese Customs Reports, July 1) as a potent remedy in chronic dysentery, varying in duration from six weeks to four years, voiding from 20 to 30 motions containing blood and mucus daily. Fifteen doses of tincture of koroniko reduced them to one-half, other fifteen doses reduced them to three or four daily, and a third like quantity effected a complete cure.

Koroniko seems to be the vulgar name adopted in New Zealand for the plant.

THE CORPUS LUTEUM.—At a meeting of the Obstetrical Society, of London, Dr. W. A. Popoff, of Pensa, read a paper on this subject. In it he described the case of a prostitute, aged 21, dying of prussic acid poisoning, in which he found a fully ripe corpus luteum, although the woman was neither pregnant nor menstruating. The President (Dr. Matthews Duncan) said it was important to have the

view confirmed that a corpus luteum, having all the characteristics of that met with in pregnancy occurred in women who were neither pregnant nor menstruating. He had seen such a corpus luteum in an aged woman who was believed to be salacious, and he had dissected cases of pregnancy with complete absence of corpus luteum *Canadian Journal of Medical Sciences*, July, 1882.

RETRACTILE ALBUMEN—Bouchard in 1880 (*London Lancet*, July, 1882) described what he thought to be a distinction in the forms of albumen, having a clinical significance. He regarded the normal albumen of blood as that form which precipitated in flocculi and which he called retractile; while the other precipitated in a homogeneous cloud. This latter he believed had no pathological significance.

Recent observations show that the difference of the appearance of the albumen precipitated depends more upon the liquid in which it is formed than upon the character of the albumen itself. Large dilutions caused the disappearance of flocculi or retractile albumen. It is to be regretted that the distinction could not be made out.

OCTERLONY ON TREATMENT OF SCARLATINA.—The leading article in the *American Journal of Medical Sciences* for July, is an article by Dr. Octerlony, of Louisville, "On the Nature, Mode of Propagation, Pathology, and Treatment of Scarlet Fever." The part of his article devoted to the treatment is of the most practical importance, although the entire article is worthy of its place.

He contends for the uselessness of belladonna both as a prophylactic and a curative agent, and with him the entire profession is willing to agree.

He makes a clear and convincing statement as to the use of cold water affusions in this disease, and we are assured it is a method of great value, but one which the profession as a whole has either neglected, or used too timidly.

In fact the whole subject of hydrotherapy needs to be studied anew, for we are convinced that with the thermometer as a guide, valuable principles could be evolved, and the danger resulting from the excessive heat in the exanthemata and other fevers, be materially lessened.

LISTERINE.—But few of our readers have not made themselves acquainted with the properties of Listerine. It is not necessary to say, therefore, that it is a substitute for carbolic acid as a disinfectant and that its ingredients do not possess harmful qualities either by internal or external use, as in the case of carbolic acid.

Dr. Englemann, of St. Louis, a ripe and accomplished leader in obstetrics and gynæcology, has ventured to use listerine in abdominal surgery after his own peculiar way and with good results. We will, as experience accumulates, find that the faith we placed in carbolic acid was rather one-sided; and surely we know now that carbolic acid is not without its dangers.

Dr. Frank M. Deems, of Augusta, Ga., has made some experiments with Listerine for the prevention of decomposition in urine, and the preservation of animal putrefaction. This has been published in a tabular form, greatly to the credit of the new vegetable antiseptic.

We trust that Listerine will supplant both carbolic acid and iodoform, two of the most persistently offensive antiseptics that modern chemistry has revealed to us.

NORTH CAROLINA PHARMACEUTICAL ASSOCIATION.—The following announcement is made by the Secretary:

The Third Annual Meeting of the North Carolina Pharmaceutical Association will convene in the Opera House at Winston, N. C., Wednesday, August 9, at 10 A. M.

Winston is an enterprising and healthful up-country town, in full view of the mountains. The climate is good and the hotel accommodations excellent. Druggists will do well to avail themselves of this opportunity to visit the mountains and meet with members of their profession from different parts of the State.

The Local Secretary and Business Committee have made liberal arrangements for the comfort and pleasure of visiting members and their families.

The object of the Association commends it to the favorable consideration of every druggist in North Carolina. The present membership numbers one hundred and sixty-two and includes many of the best pharmacists in the State—every member of the profession should seek to enjoy the benefits and privileges of membership.

Arrangements have been made with all the railroad companies for reduced rates of transportation.

Blank applications for membership are ready for those who desire them.

Address,

Charlotte, N. C.

T. C. SMITH, *Secretary*.

We congratulate our friends on the healthful condition of this Association. Their progress and prosperity is a matter of importance to the medical profession, so intimately are the druggist and doctor associated day by day. Good druggists, in the best sense of the word, make the practice of medicine more successful and less harassing.

NOTES ON GELSEMIC ACID.—Prof. Theodore G. Wormley in the *Amer. Jour. of Pharmacy*, July, 1882, has contributed a valuable chemical examination of the root of *Gelsemium sempervirens*. His principle aim is to show that *gelsemic acid* and *esculin* (found in the bark of the horse-chestnut) are not the same chemically, as claimed by M. Sonnenschein and Charles Robbins.

Prof. Wormley announced in *Jour. Pharmacy* for June, 1870, that *G. sempervirens* contained a non-nitrogenized principle of an acid reaction which was named *gelseminic* or *gelsemic acid*, and also a strongly basic principle, which was named *gelsemia* or *gelsemine*.

[Prof. Wm. Procter, Jr., made a similar analysis about 1859-'60 in *American Journal of Pharmacy*.—ED.]

Of 25 cases of gelsemium poisoning collected, 13 proved fatal. Mr. Wormley admits that there is no known chemical antidote.

Post-mortem detection of the presence of gelsemium can be more readily and fully obtained than in the case of any other vegetable poisons. Both the acid and the alkaloid are recognized by their fluorescent properties. As *Esculin* has the same fluorescent properties, it will be necessary to extract the gelsemium with ether, as ether does not extract esculin.

SCLEROTOMY.—Our readers will remember how lucidly Dr. R. H. Lewis brought sclerotomy to the attention of the State Medical Society, (NORTH CAROLINA MEDICAL JOURNAL, Vol. 5, p. 385, 1880) at the Wilmington meeting. The value of the operation for cure of glaucoma was then a debated question. Recently, the London

Ophthalmological Society discussed the question fully (*Med. Times and Gaz*). Though no decided conclusion was arrived at upon the merits and demerits of sclerotomy, the debate brought out a more precise definition than has been hitherto arrived at, of the stages and forms of glaucoma, for which this operation is to be preferred to the easier and safer one of iridectomy. The experience elicited in the discussion showed that sclerotomy had given good results in some examples of nearly every form of glaucoma, but the general sense of the meeting was evidently in favor of employing it chiefly for cases in which it is known that iridectomy often fails—as simple chronic glaucoma, glaucoma with intra-ocular hemorrhage, and glaucoma in young subjects; where iridectomy has been already performed without arresting the disease; and as an alternative to excision of globe in eyes permanently blind from glaucoma, but still subject to pain. De Wecker's operation was the one preferred by most of the members.

A NEW INFECTIVE DISEASE—ACTINOMYCOSIS HOMINIS.—We get a description of a new disease, taken from a brochure by Prof. Ponfick, of Breslau, by the *Medical Times and Gazette* of 17th June. Fistulous apertures in the skin of the neck and back, with thin and undermined edges, leading to an extensive labyrinth of sinuses in the subcutaneous and muscular tissues, which in turn communicate with centres of chronic suppuration or of phlegmon, in front of the vertebræ at one part of the spine or another—such are the most distinctive superficial characters of actinomycosis hominis as observed in eight fatal cases, as well as in a few cases that recovered.

The serous discharge from these sinuses contains a good many small yellow rounded seed-like bodies, which Prof. Ponfick recognizes as being identical with yellow fungus conglomerates which Bollinger found in a certain disease of the lower jaw of the ox. These bodies are apparently *actinomyces*, a large fungus; its life history is pretty well known, so that we may look for some reliable conclusions about the relation of fungi to internal diseases. *Med. Times and Gaz.*

The science of mycology, like the science of germ-infection of the human body, is only in a forming state, and we are not as san-

guine as our contemporary, even. Surely the students of germ theory are a zealous, persistent, and untiring set. From Prof. Mitchell to Dr. Salisbury, there seems to be no abatement in their ardor to discover the philosopher's stone. Some good must come out of it.

HARVEY'S DISCOVERY.—This old theme is not yet worn threadbare. Dr. George Johnson made it the subject of his address before the Harveian Society, (24th June). The English doctors are not willing to divide the honor between Harvey and Cesalpinus, although the Italians are attacking Harvey afresh for stealing a knowledge of the capillaries and for not giving due credit to Cesalpinus. But the English reply, How could Cesalpinus have discovered a microscopic object without a microscope. Harvey used the phrase *porasitalis carnis*, through which he at first supposed the blood to pass. Afterwards in his letter to Schlegel he says that the passage of the blood from the extremities of the arteries into those of the veins could not be effected without some "admirable artifice," and suggests that the minute arteries may gradually pass into the coats of the accompanying veins * * * as we observe in the conjunction between the ureters and the bladder, and the biliary duct with the duodenum.

This theory compared with that claimed by the modern Italians for Cesalpinus, is conclusive in favor of Harvey, for Dr. Johnson shows that the word *capillamenta*, mentioned by Cesalpinus, and translated by Italian writers as capillaries, was used to describe the filamentous terminations of the arteries and veins in nerves through which the spiritous part is supposed to pass, and thus confer sentient power upon the nerves.

All honor to Gamgee, Johnson and all English scholars for their ability in refuting the claims of Cesalpinus.

LODGMET OF FOREIGN BODIES IN THE BRAIN.—The July number of the *American Journal of the Medical Sciences*, contains interesting and instructive reports of two cases in which missiles were lodged in the brain by the explosion of guns.

The first case is by Dr. H. D. Noyes describing the removal of the breech pin of a gun from the nose, orbit and cranium. The

missile entered the nose obliquely, passing upward and backward, and its presence was not certain until he was submitted to Dr. Noyes for a plastic operation. An examination revealed the presence of a foreign body so firmly imbedded that it could not be extracted with great force, by a strong polypus forceps. It was necessary to clip away the edge of the orbit to bring the foreign body in view. It was distinguished through its course during the dissection, by a magnet. In a fortnight after the operation paresis of the extensors of the wrist and fingers of the left hand inclined the surgeons to the belief that there was an abscess in the vicinity of the place where the foreign body had been lodged, and it was decided to trephine the skull and search for the abscess. The dura mater pressed upward in the hole caused by the trephine, but *no pulsation* could be observed. It felt tense and firm. An aspirating needle was carried downward and forward towards the orbital openings, and five drachms of purulent matter were withdrawn. He succumbed in about 40 days.

An autopsy was made 12 hours after death, and the brain placed in Wickersheimer's fluid,* where it remained for 12 days. It was then transferred to alcohol, in which it acquired a firm consistence, and still preserved nearly its normal color; after hardening two frontal sections were made through the hemispheres, one through the anterior central, and the other just behind the posterior central. Convolutions. * * * The motor tract affected includes the anterior part of the internal capsule and the adjacent coronal expansion of its fibres into the centrum ovale.

Dr. Noyes remarks that the deep situation which the foreign body occupied, not only concealed it from view, but from exploration by the finger, except in the nasal cavity. The patient had suffered no pain, was entirely free from dizziness, was unconscious of any inconvenience, except the discharge from the nostril and from the fistulous opening in the brow; his intellect was clear, his memory was unimpaired, and in every essential respect he considered himself well. The deformity of his face was the exclusive reason for his seeking advice. He was of resolute character and fair intelligence.

* *Wickersheimer's fluid.* See NORTH CAROLINA MEDICAL JOURNAL, Vol. VI, page 280, 1880.

Dr. Noyes narrates his case with great candor, and brings in review the surgery of the removal of foreign bodies from the brain.

"It may be argued," he says, "and with reason, that as to the missile undisturbed the patient might have lived for months or years longer. This case will deserve to be quoted in favor of the expectant treatment. But it will be offset by a very large number of a contrary kind—when the field of research is fully explored."

The difficulty in the way of drainage seemed to be a very perplexing one in this case as in all similar ones. The soft tissues of the orbit choke the aperture in the cranium and prevent easy escape of discharges. Dr. Harlow, one of the attendants of the patient Gage, known as the "*American Crow-Bar Case*," in his correspondence with Dr. Noyes says that Gage's recovery was due to the free outlets below and above—the points of entrance and exit of the crow-bar.

Dr. Geo. Burr, of Binghamton, N. Y., gives the second case of a young man into whose brain was buried a part of the breech of the gun with the nipple attached. The patient lived four months, and after death the missile was found in the anterior and inferior angle of the left middle lobe of the cerebrum in near proximity to the fissure of Sylvius.

Some efforts were made to extract this missile but failing future attempts were not made.

His death, as in the case of Gage, the American Crow-Bar Case, was due to a debauch.

BOOKS AND PAMPHLETS RECEIVED.

Circular of the State Board of Health, California. Resuscitation of the Drowned. Methods to be Adopted on the Spot Pp. 8.

Catalogue of the Baltimore Medical College, No. 93 N. Paca Street, Baltimore, Md. 1882-83. Baltimore: Curry, Clay & Co., Printers. 1882.

Transactions of the Massachusetts Medico-Legal Society. Volume I. Number 4. 1881. Cambridge: Printed at the Riverside Press. 1882.

University of the City of New York. Medical Department. Annual Announcement of Lectures and Catalogue. Session 1882-83. New York: 1882.

Report on Surgery. By W. O. Roberts, M.D. Reprinted from the American Practitioner for June, 1882. Louisville, Ky.: Printed by John P. Morton & Company. 1882.

Notes on the Essential Psychic Signs of General Functional Neurasthenia or Neurasthenia. Read Before the Missouri State Medical Association, at Hannibal, Mo., May 18, 1882. By C. H. Hughes, M.D., St. Louis. Reprint from the Alienist and Neurologist, July, 1882.

College of Physicians and Surgeons, Medical Department of Columbia College, in the City of New York. Seventy-Fifth Annual Catalogue and Announcement. New York, June, 1882.

Fourth Annual Report of the State Board of Health, of the State of Rhode Island, For the Year Ending December 31, 1881. Providence: E. L. Freeman & Co., Printers to the State. 1882.

A Paper Read Before the Academy of Medicine, June 15th, 1882. By James Knight, M.D. New York: E. Wells Sackett & Rankin, Printers and Stationers, 56 and 58 William Street. 1882. Pp. 16.

On Genital Renovation by Kolpostenotomy and Kolpocetasis in Urinary and Feal Fistules. By Nathan Bozeman, M.D., New York. Reprint from Volume VI. Gynecological Transactions. 1882. Pp. 44.

Annual Announcement Memphis Hospital Medical College and Medical Department of Southwestern Baptist University. College Building on Union Avenue, immediately in front of Marine and City Hospital.

Announcement and Catalogue of the National Medical College of the Columbian University, Washington, D. C., for the Sixty-First Session, 1882-'83. Washington, D. C.: Printed by W. H. Moore, 511 Eleventh St. 1882.

Twenty Second Annual Announcement of the Bellevue Hospital Medical College, foot of East Twenty-Sixth Street, New York City. 1882-83. With the List of Graduates for 1882. New York: Printed for the College. 1882.

University of Maryland. Seventy-Fifth Annual Circular of the School of Medicine, N. E. Corner Lombard and Greene Streets, Baltimore, Md. Session 1882-83. Baltimore: Press of Isaac Friedenwald, No. 104 W. Fayette St. 1882.

Annual Announcement of the Southern Medical College, Atlanta, Georgia. For the Session of 1882-83, with a Catalogue of the Matriculates and Graduates of the Session of 1881-82. Atlanta, Ga.: A. M. Bergstrom, General Job Printer. 1882.

Personal Sanitary Responsibilities. A Paper by John K. Allen, of Lansing, Michigan. Read at a Sanitary Convention at Battle Creek, Michigan, March 30, 1881. (Reprinted from the Annual Report of the Michigan State Board of Health, for the Year 1881.)

Fourth Annual Announcement of the California Medical College, (Eclectic) Oakland, California. Session of 1882-3. The Regular Term Commences on Monday, November 6th and Continues for Six Months. College Building, Clay Street, between 10th and 11th Streets, Oakland.

Second Annual Report of the Astronomer in Charge of the Hological and Thermometric Bureaus in the Observatory of Yale College. 1881-1882. Presented to the Director of the Observatory, June 15, 1882. By Leonard Waldo. New Haven: Tuttle, Morehouse & Taylor, Printers. 1882.

Excerpts from Opinions of Distinguished Medical Men in this and Other Countries Justifying the Treatment of the Late President Garfield, Together with a Letter in Reply to the Resolution of the Special Committee of the House of Representatives Referring to the Expenses Consequent upon his Illness and Death. Washington, D. C.: Gibson Brothers, Printers. 1882.

Fourteenth Annual Report of the President of the Inebriates' Home, Fort Hamilton, N. Y., for the Year 1881. Also a Statistical Report of Six Hundred Cases of Alcoholic Inebriety, Treated at the Inebriates' Home, from Nov. 1, 1879, to Jan. 1, 1881. By Lewis D. Mason, M.D., Consulting Physician to the Inebriates' Home. Fort Hamilton: Printed at the Inebriates Home. 1882.

Report of the Methods and Apparatus for Testing Inflammable Oils. Based upon Investigations, Ordered by the State Board of Health, for Establishing a Standard Safety-Test of Illuminating Oils. By Anthur H. Elliott, Ph.B., F.C.S., School of Mines, Columbia College. Reprinted from Second Annual Report State Board of Health of New York. Albany: Weed, Parsons and Company, Printers.

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THOMAS F. WOOD, M. D., Editor.

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ORIGINAL COMMUNICATIONS.

CLINICAL REPORT ILLUSTRATING SOME OF THE COM- PLICATIONS OF ORGANIC STRICTURE OF THE MALE URETHRA.

Read before the 29th Meeting of the North Carolina Medical So-
ciety, held at Concord, N. C., May, 1882.

By R. L. PAYNE, JR., M.D., Lexington, N. C.

The several causes of organic strictures of the urethra so com-
monly affect the mass of mankind that it becomes a question how
any can escape, and, indeed, if the views of Mr. Forster, of Guy's
Hospital be true, we might expect every man to suffer stricture.
He discards the idea that gonorrhœa can produce stricture *per se*,
and asserts that strong injections have little to do with the result,
whilst he advances the unique idea that stricture is due to the "in-
termittent stretchings and relaxations that the penis and with it
the urethra undergoes . * * * if there be no
hereditary predisposition to the disease, some slight inflammatory
thickening may have taken p'ace at the weakest spot in the healthy

urethra as the result of unequal distension of the parts." This idea of causation, however, we mention only to discard, for, if the urethra is healthy, it certainly should not have weak spots as variously located as are strictures of that canal, and if simple erection of the penis is to cause so serious a trouble, *preventive* medicine, which is making such rapid progress now, might advise early castration as *the* remedy, and since women are to-day spayed upon the slightest pretext, there might not be found wanting doctors ready to emasculate the race were this theory allowed the slightest foothold. Authorities generally, however, recognize protracted gonorrhœa, or maltreated gonorrhœa as almost always followed by stricture, and again, authority is agreed that traumatism is a potent factor in its causation. In addition to these, the researches of Dr. S. W. Gross, a few years since, prove conclusively that masturbation must be added to this list of causes, for, says he, "masturbation affects the sexual powers by inducing a constant state of congestion and undue excitability of the urethra which terminates in inflammation, and the formation of a coarctation in its fixed or curved portion," and this theory, he seems conclusively to have demonstrated by clinical facts.

Of all single men who are not given to venery, many are masturbates, and when we remember that all are more or less exposed to perineal wounds and bruises, it no longer need be a matter of wonder that stricture is so common a trouble, and it becomes a matter of wonder that stricture is so common a trouble, and it becomes a matter of consequence that not only the specialist, but that every practitioner be able to diagnose and treat this disease with its many grave complications. And yet how few general practitioners have supplied themselves with any urethral instruments beyond the ordinary gum catheter, and how often do patients come under our care suffering with stricture who have been for months treated in vain, the effect being regarded as the cause, and the poor sufferer treated for enlarged prostate, gravel, cystitis, &c., &c. The text-books are sufficiently full on this subject, however, and it is with a view, not of elucidating anything new, but to call again the subject of the complications of stricture to our minds that I have made this clinical record.

STRICTURE WITH GLEETY DISCHARGE.

Case I.—July 17, B. M., came to be treated for a gleet discharge. He had gonorrhœa three years ago with orchitis. Two years since he had a second attack, with severe orchitis which confined him to bed several months, resulting in a gleet which lasted a long time and six weeks ago he contracted the third, blenorrhœa. I ordered a routine treatment of copaiba and injections, and in a few days he had a sharp orchitis. Remedies were at once discontinued and he was placed on the antimonial and saline mixture of Gross. Extract belladonna was applied to the swollen gland and he was quickly relieved. Again, I ordered injections, again the testicles swelled and were treated as before, and this was repeated three or four times. My patient began to tire of my treatment, and I to be ashamed of it, when at length I explored the urethra with the bougie à boule, and detected a stricture of calibre 14 m. m., four inches from the meatus and a second in the region of the bulb.

August 8th. I passed a steel sound, No. 18, of the French scale, (throughout this paper no other scale is used than that of the French) this was repeated at intervals of two days, the size being gradually increased until August 24th, when the full capacity of the urethra was reached by the passage of a No. 27 sound. The perinæum was now painted with iodine, and a No. 27 passed daily. The gleet was cured as soon as the No. 27 could be passed with ease, but the use of the bougie was continued for several days and its periodical use enjoined. During this time 10 grs. monobromide of camphor was administered at night, and a cold hip bath ordered to be taken just before retiring.

STRICTURE, EPIDIDYMITIS, AND REFLEX TROUBLES.

Case II. Feb. 15th. C. W. is very despondent and thinks he has heart disease and kidney trouble. He suffers much with flatulence and other symptoms of disordered digestion; complains of pains in the loins, uneasiness about the anus and darting pains in the perinæum. He also suffers from recurring attacks of epididymitis, which he calls *stone-ache* (a very common symptom in organic stricture). He notices that his urine is scanty, passing only a quart in 24 hours which is high colored, often voided with a sense of burning and though clear when first passed soon becomes muddy.

In closing the act of urination he often feels as if a few drops were retained which afterwards run out, soiling his clothing. (This symptom which is said to be pathognomonic of stricture, I have often seen in cases of debility from any cause and to me it is far from diagnostic).

The specific gravity of the urine is 1032. It is clear when voided but in a few hours deposits a heavy, amorphous, fawn colored precipitate, which chemical examination shows to consist of the urates of ammonia and soda with a few shreds of mucus. Tests for albumen and sugar are negative. An urethral examination defined three strictures, two in the spongy and one in the membranous portion. He received a wound some years ago in the perinæum but he has been addicted to self-pollution, and to this cause I attribute, at least, the two anterior strictures, as there is no history of gonorrhœa.

Feb. 22. A No. 9 sound was passed with great difficulty through the stricture and a gradual dilatation was effected by sounds introduced at intervals of two days, until March 2d, when a No. 24 could be passed with ease and this was passed daily for several days, when all difficulty of urination and obscure pains being relieved, he was ordered a tonic and conditionally discharged.

March 24. He reports himself well, feeling better than for years past.

STRICTURE, IMPOTENCE, CYSTITIS, &C.

Case III.—May 18th. Mr. S. came to my office complaining of difficulty of urination. Three years ago he had a clap which was at first treated by a strong injection of caustic, and was followed by an obstinate gleet. A year later he contracted a fresh blenorrhœa which has never been entirely relieved, and he has since had cystitis. His present symptoms are neuralgic pains along the urethra, great straining in the act of micturition, retention of the last few drops of urine, and a gleety discharge.

The bulbous bougie detects four distinct coarctations in the urethra, the calibre of the largest does not exceed 12 m.m. and the first is situated within $\frac{1}{2}$ inch of the meatus. After prolonged effort I passed a No. 9 into the bladder. He now returned to his home, a long ride, horseback, and the same day had a chill followed by a high fever which lasted several days.

May 23. Having given him three drops of tinct. aconite root, as prophylactic of urethral fever I succeeded in passing sounds from No. 9 to 14. This amount of dilatation relieved somewhat the urgency of his symptoms and my patient did not return until to-day, (July 12) when I found him much worse in every respect and failed to pass the most delicate filiform through the last two strictures. He has been riding on a mowing machine all summer, the vibrations of which have tended to rapidly aggravate his troubles.

July 14th. After prolonged effort I succeeded in passing a No. 8 sound and this was repeated on several different occasions, but all efforts to pass a larger instrument were futile, although he was kept in bed and every attempt made to reduce irritation. I now advised internal urethrotomy which patient refused.

August 27th. My patient at length consents to be cut. He has rapidly grown worse. His urine now passes guttatim and with great effort. In sexual congress he feels as if he would have an emission, but the obstruction prevents ejaculation and the semen flows back into the bladder. He was now placed on quinine and bromide potash and ordered rest in bed with cold hip baths until the operation.

September 3d. The patient having taken quinia sulphate gr. x, and being anæsthetized I proceeded to operate. The first stricture, near the meatus, was divided with a bistoury; the second, two inches from the meatus, with Prof. S. D. Gross' urethrotome, and the remaining two being near the bulb are divulsed until a No. 20 sound was now passed and tied in position. As soon as he came from under ether he had 1-6th gr. morphia, hypodermically and was ordered quinia sulphate and bromide potash every sixth hour.

Sept. 4th. Pulse 88. Temperature 103.2°. Catheter was removed and a No. 21 sound passed through the stricture and immediately withdrawn. The urine is scanty and loaded with mucus. Quinine was ordered in larger doses and in addition tinct. aconite root, gtt. iij, every fourth hour. Diet, milk and animal broths.

Sept. 6 h. Pulse and temperature normal. Passed a No. 23 sound, and discontinued all remedies except the following addressed to the cystitis, viz.:

R. Fol. uva ursi, $\bar{\text{z}}$ i.

Lupulin, $\bar{\text{z}}$ ss.

Pulv. ergotæ, 3 iij.

M. et ft. infus. et sig. One ounce thrice daily.

The sound was used at intervals of three days until early in October when he was discharged cured, being able to eject semen and pass urine with perfect ease. The cystitis had also yielded to treatment. Chordee which was of some trouble in the early treatment was controlled by monobromide of camphor.

STRICTURE, PROSTATORRHOEA, &C.

Case II.—August 9th. To-day, W. L., consulted me for the relief of what he thinks is a spermatorrhœa. He has a discharge from the urethra perfectly clear, transparent and ropy, and keeping up a constant moisture about the meatus. On awaking in the morning, he finds the meatus glued together and the discharge is most profuse when straining at stool. He also suffers a feeling of weight and uneasiness in the perinæum, and about the anus, is very low spirited, fears impotence, &c., &c. He has been given to self-pollution and has also had gonorrhœa. I find a stricture about 6 in. from the meatus of calibre 18 m.m. with hyperæsthesia of the membranous and prostatic urethra. I treated stricture by gradual dilatation, hoping the cold steel would at the same time exercise a tonic effect upon the prostate, and relieve that flux. In a few weeks all symptoms of stricture were relieved, but the discharge and hyperæsthesia continued still. My patient was now ordered an injection of hydrastis, but as the symptoms were unabated in the latter part of September, I cauterized the prostatic urethra by means of the urethral syringe with the nitrate of silver (gr. xx to $\frac{5}{8}$ i). This quickly cured my patient.

STRICTURE, SPASM OF THE SPERMATIC CORD.

Case I.—September 8th. J. H. gives the following history. Six or eight months ago he had a gonorrhœa which was soon relieved by strong injections. A few weeks since he had a slight attack of epididymitis. This soon wore off only to reappear again a day or two since with increased severity, and as a complication, he now suffers a spasm of the spermatic cord. Most of the time the right testicle is drawn firmly up against the external ring, but occasionally it will relax and contract playing fast and loose with the testicle as well as the feelings of my patient. His pulse is but little excited but the epididymis of both testicles is swollen and very tender to

the touch. Thinking the epididymitis caused the spasm of the cord he was simply ordered

R.

Ext. belladonnæ, 3 ii.

Glycerinæ, 3 ii.

M. et ft. sol. et sig, apply to testicles every fourth hour.

The inflammation quickly subsided, but the spasmodic action of the cord persisted. After careful consideration I could find no cause for the trouble, but the patient remarking that after urination he often felt as if some were retained—"like there was a little ball in my penis," as he expressed it. I explored the urethra and three inches from the meatus I detected a stricture of calibre 18 m.m. This was treated by gradual dilatation, the sounds being left in situ from 5 to 25 minutes. He began to improve as soon as I began to dilate the stricture, the spasm daily growing less severe and continuous, and three weeks later a No 24 could be passed with perfect ease into the bladder, and all trouble about the cord had disappeared.

STRICTURE, IMPOTENCE.

Case VI.—October 16. D. S. comes to be treated for impotence. Three years ago he had gonorrhœa resulting in a gleet which was allowed to run six months and then cured by injections. Since this time he has suffered gradual failure in sexual power until now the erections are so feeble he is unable to consummate the sexual act. Sometimes, when he tries to have intercourse, he cannot command an erection, at others he has an emission before he can enter,—mis-emission of Gross. The testes are firm and well developed, the penis looks shrivelled and wasted, he says: "*it* has fell away a sight,"—and the lips of the meatus are red, pouting and covered with a glairy secretion. He has no difficulty at all with his water but has frequent nocturnal emissions, often has "stone-ache" and wakes in the morning to find the meatus glued together. Exploring the urethra with a bulbous bougie, I define a stricture of 18 m.m. 6 in. from the meatus with marked hyperæsthesia of the membranous urethra. He was ordered laxatives, bromide potash through the day, and cold hip baths every night, just before retiring; is to avoid all stimulants, sleep on a hard bed with light covering

and strictly to abstain from all attempts at sexual congress. I now attacked the stricture by very gradual dilatation until Nov. 8th when a No. 24 was inserted and allowed to remain five minutes, and this was repeated at intervals of two and three days until the first of December, at which time he was discharged cured. Under the use of the sound the sexual power was fully restored, and strange to say, there was a gradual increase in the size of the organ. (So often have I seen impotence with absent or feeble erections associated with stricture at the same time that the testes were apparently sound, that I have come to believe that the presence of the effused lymph fills up the areolæ of the penis and thus constricts its blood vessels that the blood supply necessary for erection is impossible, and I am well satisfied that the cause of chordee is the presence of effused lymph in, and consequent unequal expansion of, the erectile tissue.)

STRICTURE, PERINEAL FISTULA, DIABETES, INSIPIDUS, &c.

Case VII.—March 26th, A. B. came from a neighboring town to be treated for stricture. Thirteen years ago he contracted a blenorrhœa which he treated himself abortively with nitrate of silver. About six years later he had symptoms of stricture and was treated at that time by an able surgeon by dilatation, and the subsequent use of the sound enjoined. He has neglected himself, however, as such patients usually do, and his stream of urine has been gradually growing smaller until about six months ago, when, after exercising on horseback, all his symptoms rapidly grew worse. He wrote to consult my father in November, and was advised at once to come to the office, but he suddenly grew worse, began to have rigors and was unable to travel. Early in February, my father, Dr. Payne, saw him in consultation, and a large perineal abscess burst as he entered the room. Up to this time it had been impossible to introduce any instrument into the bladder, but a small Gonley's catheter was now passed over a filiform into the bladder and his water withdrawn. He was afterwards very sick, had cystitis, and probably septicæmia, but to-day is the first time we have seen him since the consultation. His pulse is now 100, temperature 99.5°. He urinates with great difficulty, sometimes guttatim, sometimes in a tiny stream, and a fistula in the perinæum discharges pus and urine. He is unable to eject semen.

There are three strictures, one within $\frac{1}{2}$ inch of the meatus, one much tighter 3 inches from the meatus, and a third very tight in the membranous urethra about the junction with the spongy portion. A No. 3 slippery elm bougie is the only thing which will pass into the bladder, and this, being allowed to remain in situ 20 minutes, and then withdrawn, is so firmly grasped that each coarctation leaves its impress upon the bougie.

March 28th. The urethra is very irritable, but repeated efforts were made to dilate until April 26th, at which time there was no perceptible gain. During this time he took bromide potash thrice daily, a tonic mixture, and used the hot hip-baths daily. He was, and is still passing very large quantities of urine, about two gallons a day. This is of low specific gravity, 1005, but contains no sugar or albumen, and he frequently passed small, grayish-looking gravel, probably of phosphatic nature. All efforts to dilate failed utterly, and April 26th, the patient being etherized and a fliform passed into the bladder, my father divided all the strictures with Pancoast's urethrotome. The patient reacted well, and the hemorrhage was slight, though a very long stricture was divided near the bulb. A No. 20 catheter was now inserted and tied in position.

April 27th. Patient is cheerful. Pulse 104. Temperature 100°. Withdrew catheter and ordered quinia sulphate, gr. ij., and tinct. aconite root, gtt. ij, every fourth hour. Diet, milk and animal broths.

April 28th. Pulse 76. Temperature 98.6°. There is much scalding in urination and the stream of urine is small, but the quantity which has amounted to a diabetes insipidus, has already become much less.

Discontinued quinia and aconite.

Thomson's sounds were now passed daily until May 4th, at which time the patient was doing well in all respects. The urine normal in quantity and quality is voided without impediment, in a full stream. The fistula is entirely healed. A No. 21 sound was introduced with ease, and having ordered a tonic treatment, the patient was discharged with the advice that a full-size sound should be passed every second day for a month, and then once or twice a month during his remaining life.

A number of other evils result from organic stricture and

complicate its treatment, but these, selected at random from my note book, will serve to illustrate some of those we most commonly see in practice. Cases will be met with of retention of urine, of enlarged prostate—indeed, in my opinion, enlarged prostate is most frequently the result of the prolonged congestion caused by the irritation set up by a stricture of the membranous urethra—of atrophied prostate, of prostatic abscess, of dilated urethra, of ruptured urethra with urinary infiltration, of hypertrophied and sacculated bladder and of grave changes in the ureters and kidneys. In every case the general health sooner or later suffers. These are reflex pains, disordered bowels, and troublesome dyspepsias; the patients are often gloomy and irritable, frequently anæmic; the subjects of nervous exhaustion, and unless relief be obtained, go on from bad to worse until death closes the scene with symptoms of complete exhaustion.

“Sometimes” says the eminent Prof. Gross, “the brain sympathizes with the urinary troubles and a slow, subacute inflammation, attended with coma, is set up in this organ and in the arachnoid membrane, eventuating at length in fatal serous effusion.” In speaking, therefore, of a disease at once so prevalent, and often so grave in its results, I cannot forbear using the opportunity offered of expressing an opinion as regards its treatment, which opinion, humble though it be, will still bear the merit of being founded upon the earnest convictions growing out of a careful study of my own experience and that of the ablest surgeons.

But before taking up the subject of treatment it may be well to speak of the danger attending the most trivial operation upon the urethra. It is certainly one of the most delicately organized parts of the body, and perhaps, of all others, the most ready to resent any interference. It is also to be noted that in the subjects of old urethral stricture—as a result of the long-standing, subacute inflammation and the attendant congestion—the whole urethra is hyperæsthetic and more than ever intolerant of instrumental irritation, while the subjects of such disease are nervous and debilitated, peculiarly prone to nervous shock, and hence, easily affected by the slightest operation upon the genito-urinary apparatus.

Velpeau records a case of tetanus the day following the introduction of an ordinary bougie;—the autopsy revealed no lesion.

Mastin writes of the case of a young man sick with remittent fever who suffered retention of urine. A cautious introduction of the catheter was attempted by the attendant, an able physician, but before it reached the bladder, the man had a terrible convulsion and died. Again, the autopsy was rid, the evil had resulted through the subtle influence of the great sympathetic chain of nerves and the feeble ken of man could not penetrate the mystery. Gross, and indeed all surgeons of eminence, tell us how great the danger from the gentlest handling of the catheter and in my own observation—perhaps, in that of many of you—I have seen—occasionally in private practice, frequently in hospital practice—apparently slight operations upon the part quickly followed by such grave results as urethral fever, surgical kidney and diffuse pyæmia, with its distressing accompaniments of inflammations of the articulations, and the formation of pus in the joints, muscles, veins and cellular tissue, with multiple abscesses in the lungs, kidney, liver, spleen, &c.

Again, before taking up the subject of treatment, we must decide whether organic stricture can be cured. More than fifty years ago, Delpech declared, that the surgeon who said he could cure a stricture was trifling with the truth, and though in other fields surgery has made rapid advances as yet no one has been able to gainsay this statement. Pathologically, stricture is not curable; practically it is; for although when lymph has become organized in these parts, no power known to us will effectually remove it, still all symptoms may be relieved and held in abeyance by judicious methods. Since, then, the urethra is so liable to resent any instrumental interference, and since stricture can only be relieved and not cured, it is our duty as surgeons who exercise a due regard for the lives and well being of our patients, to choose that method of treatment which gives with the least risk, and to the discussion of the respective merits of these methods will be devoted the remainder of this paper. Seven plans are given by which organic stricture may be treated and we give them in the order in which we wish to speak of them. 1st. By absolute rest. 2d. By continuous dilatation. 3d. By caustics. 4th. By electrolysis. 5th. By rupture. 6th. By gradual dilatation. 7th. By urethrotomy. But little can be said of the first method except as an auxiliary to other modes. The second—continuous dilatation—is very liable to cause cystitis; is always

accompanied by suppuration, leaving behind a discharge often troublesome to relieve, and is frequently productive of urethral fever. The treatment by caustics has been abandoned except in rare instances when it is used to allay urethral irritability, and favor the tolerance of instruments. With the treatment, by electrolysis, I have no experience, and hence will neither commend or condemn, but of the fifth method—by rupture—I would say it should never be used except in a few cases where the stricture is tough and cartilaginous, of long standing, and has resisted all milder methods, and even in such cases internal urethrotomy is to be preferred, for although rupture is less liable to be followed by shock, urethral fever, pyæmia, &c., and as the cicatrix from a tear is more liable to be followed by contraction than that from a clean cut, its effect is less permanent than that of urethrotomy.

Our choice must then be made in the majority of instances between dilatation and urethrotomy. As regards the respective merits of these two methods there is still some controversy among our surgeons. Some carried away by the quicker relief afforded by, and consequent greater brilliancy of, the cutting operation, forget its perils and declare it to be the only rational method; while others, more conservative, use in the large number of instances the plan of very gradual dilatation. To these last, I give my adherence for it has been the experience of many of the ablest surgeons, that the results of dilatation are as permanent as those obtained from urethrotomy, while by this method the risk to life is reduced to a minimum; and after both cutting and dilating a large number of strictures, my own observation confirms their testimony, for as before said, pathologically, there is no cure for stricture; the utmost we can hope for is relief of symptoms, and no matter what method is used, unless the patency of the canal is maintained by the periodical use of the sound, troublesome symptoms will sooner or later recur. To this last observation there may be an exception in the case of recent strictures, for in these, before the deposited lymph has become fully organized, it is possible that the pressure of a full-sized steel sound daily used may so stimulate the absorbents as to cause its removal, and in a few instances, I think, I have thus obtained permanent cures. It is no wonder that this should be so since we all have seen how quickly a bubo will sometimes disappear if a weight be laid

upon it, how an œdematous limb will grow less under a well applied bandage or how the swelling, remaining after orchitis, is relieved by strapping the testicle. In the use of gradual dilatation much will depend upon the patience and care with which the treatment is carried out. The urethra should never be made to bleed, and he who makes a false passage should be considered guilty of mal-praxis. The kind of instrument to be preferred is the conical steel sound, but in certain tortuous strictures much may be gained by the use of soft instruments—preferably the olivary bougie—until the canal be somewhat straightened, when the sound should take their place. Only one objection could be made to soft instruments thus used, and that is—since in stricture every orifice in the urethra becomes more patent—soft instruments by catching in these or in a fold of mucous membrane may lead to errors of diagnosis which objection would not stand, were the urethra always well explored by the bougie à boule before treatment is instituted.

The patient should be instructed to pass no water for several hours previous to the operation, and in using the sound he should be placed in the recumbent posture with the legs semiflexed, and should breathe with mouth open, as this will, in a great measure, prevent any downward pressure of the bowels or abdominal walls upon the bladder. The sound should be passed as an ordinary catheter, and if pressure be made over the *mons veneris*, downward in the direction of the feet, as the instrument is taking the second curve the suspensory ligament will be relaxed and the sound will more readily enter the bladder. The size of the instrument used should be gradually increased one or two sizes, or, as is more accurate, one or two millimetres every second or third day until the full capacity of the urethra is reached, when a full size sound should be passed daily and allowed to remain in the stricture from 5 to 15 minutes. When there is a troublesome gleet, the sound may remain even longer in situ, but any instrument used of such large size or left in position so long a time as to produce a general urethral spasm—which may be known by the tightness with which the instrument is grasped during its withdrawal—will do harm, and I have often felt that too great a hurry to relieve a patient, and consequently the use of too great force always defeated its own ends, and in some instances undid all the good which I had been days in accomplishing.

To determine how far it is necessary to dilate the stricture, the urethrometer is frequently used, but it is a costly instrument, and is not itself free from error, and we have usually thought it safe to dilate the stricture until all symptoms were relieved, and then to carry the dilatation 6 to 8 mm. beyond this point to allow for subsequent contraction.

This is the manner in which we would usually manage all ordinary strictures, but it is by no means an infrequent occurrence to find a stricture of such small calibre, that the best efforts of the surgeon will fail to insert a sound in which case resort must be had to the tunnelled catheter of Gouley, and the filiform bougie. No little skill is often required in the successful use of the filiform, and I hope I may be pardoned if I give somewhat in detail the manner in which they are used by my former teacher, Prof. John Brinton, than whom there is no more conservative surgeon, skillful operator, and perfect gentleman within the ranks of our profession. First, a filiform is passed down to the stricture, and if it enter, a tunnelled catheter is slipped over it into the bladder, but if it fail to enter it must not be withdrawn. It has caught in some fold or opening of the mucous membrane which would almost surely catch it again were it withdrawn and again entered. Let it remain, and if this fail too, pass another and another until the urethra is filled or the bladder is entered. If we finally succeed in passing the stricture—which may be known by the freedom with which the filiform may be moved up and down—all the filiforms, except the one in the stricture, are withdrawn from the urethra and then a small tunnelled catheter is slipped over this until the stricture is reached. We now no longer attempt to simply push the catheter along the filiform through the stricture, for this is a rough method, may cause bleeding and great irritation, is liable to cut and ruin the filiform, and is a frequent source of failure.

The best method is this: pass the catheter in the filiform down to the stricture, then withdrawing both catheter and filiform a little way, slide them down together, and repeat this manœuvre until the bladder is reached. We should now have at hand several sizes of Gouley, and when there is much difficulty in passing the filiform it is allowable to dilate a little more rapidly until an ordinary sound can be used than in cases which do not require the filiform, but as

soon as this can be abandoned, proceed by very gradual dilatation, always bearing in mind that patience will bring its own reward.

In some few cases it is well to leave the filiform in the bladder, until an appreciable amount of dilatation is reached, to avoid the trouble of again introducing it. Failing to pass the filiform, we may try different sizes of catgut, or what is often very efficient, the slippery elm bougie which is prepared by trimming down a piece of bark to the desired size with a pen knife, polishing it nicely with emery paper, dipping in warm water and as soon as the mucilage begins to dissolve it is ready for use. I have sometimes succeeded with this when everything else failed. The mucilage which appears on its surface greatly facilitates its introduction, and once within the stricture it will absorb moisture until its size becomes double what it was when first introduced, and thus acting like a sponge tent, an amount of dilatation is obtained that no other instrument will give. We need never be afraid to use the elm bougie lest it break, for let it once become wet and its fibres will grow very tough so that it can only be broken by twisting. If we expect for any reason, that we will have to resort to either the elm, catgut or filiform bougie, we would never use a larger instrument, because that would possible so jam together the parts as to entirely close any minute opening, and thus make it impossible to introduce any instrument, at least until urine was again passed, and this, of course, might be impossible.

If, at our first effort, we try all these instruments and succeed with none, we must not say the stricture cannot be passed, but make renewed efforts as soon as the irritation has subsided, and only give it up after repeated trials have convinced us beyond a doubt that the coarctation is at least impermeable to instruments, then as a *dernier ressort* urethrotomy remains, the length of delay, of course, being determined by the urgency of the attendant symptoms. A very large majority of all strictures may be thus treated by dilatation, but occasionally we meet with strictures of so dense and cartilaginous a nature that no dilatation is possible, or, again, we will encounter strictures so resilient, that no dilatation is in the slightest degree permanent. For the cure of these we are compelled to resort to the knife and of all instruments for internal urethrotomy.

I would prefer the urethrotome of Charrière, which is a combi-

nation of Maissoneuve's and Civiale's instrument. I prefer this instrument because it is adapted to cutting either forward or backward; but if it be possible, I prefer the *retrograde* to the *anterograde* operation, because it is less dangerous, still; it is usually the case that when a stricture can be dilated sufficiently to admit an instrument that cuts from behind forwards, that stricture can be treated without cutting, and for this reason, both my father and myself have usually divided strictures from before back, always using a guide, and so far without a single accident. If we decide to do a urethrotomy we ought never to do it until the patient is well prepared for the operation. Never cut when the patient is depressed from any cause except in case of special emergency, should be a maxim in urethral surgery.

See to it, that his general condition is as good as possible, under the circumstances, and for a few days prior to the operation it is well to give a little quinine thrice daily. After the operation, it is my habit to give a full dose of morphia and command absolute rest. Should urethral fever supervene it is treated by quinine and tinct. aconite root, while the patient is fed on milk. About 48 hours after the operation a full sized steel sound is inserted, and this is repeated at intervals of two days until the parts are thoroughly healed. It seems to me there is no field for Symes' operation, for if the stricture is sufficiently patent to admit his director, a filiform can be used with ease as a guide to internal urethrotomy, and no one will question that this is not much safer than opening the urethra from the perinæum. If nothing can be made to enter, however, we have as a last resort external urethrotomy, but my paper is already too long to permit any further details. I will only say were I called upon to do this operation, I should use the button-hole operation as practiced by Mastin, in which the urethra is entered by cutting down upon the end of a sound which presses upon the stricture, and after the stricture is divided, and a catheter is inserted, the wound is closed with pins as in the operation for hair-lip.

After any operation, no matter what it is, we show our patient how to use the sound himself, and endeavor to impress upon him the absolute necessity for its periodical use.

We instruct him to pass it at first every three or four days, then once a week for, say, six months, then twice a month, and finally, once a month, at least, for years, and it is an error on the side of prudence, if it be an error at all, to enjoin its use for life, a large number of patients will tire of this, but so surely as they do, so surely will they relapse into their former condition.

HYSTERICAL APHONIA IN PREGNANCY.

Read Before the Medical Society District of Columbia.

By C. H. A. KLEINSCHMIDT, M.D.,

Professor of Physiology, Medical Department, University Georgetown, D. C.

Mr. President:—The case I have the honor to report to the Society to-night, represents, I believe, one of the many forms in which that protean disease “hysteria” may show itself. The history of the case is briefly as follows :

Mrs. J. D., aged 21 years, was married January 18th, 1881. Her menses had just ceased a few days before her marriage, and did not return after. She is of slight build, exceedingly nervous, somewhat deaf, bears pain badly, and is apt to give way under it ; as her mother again and again expressed it, she cannot stand pain, and I dread the time of her confinement. The patient enjoyed excellent health during her pregnancy, appetite good, hardly any morning sickness and surrounded as she was, with all the comforts of life, did as well as any woman could possibly do under the circumstances.

I was first called to see her on September 22d, 1881, and found her to be suffering from a somewhat severe bronchial catarrh, accompanied by a very annoying cough. At the same time I found that no matter how great the effort she might make, she could not speak above a whisper.

This aphonia had occurred suddenly on the morning of September 20th, the day after the death of President Garfield. On that day, after reading a morning paper, she remarked to her husband, John, the President is dead. These were the last words spoken by her in a natural voice, for when her husband returned from his office in Washington in the evening, he could not understand a word she said. All this was ascribed to her having taken a cold, inasmuch as the cough already referred to had set in a few days before, and I was called in to treat the catarrh, but little attention being paid by the family to the loss of voice. The bronchial catarrh readily yielded to treatment in a few days, but the aphonia, instead of decreasing, increased, until finally she could only make

herself understood by signs ; or, by the movements of her lips. There being not the slightest evidence of paralysis anywhere else, and taking into consideration her nervous temperament and her pregnant condition, and the sudden onset of the disease, I concluded that I had to deal with a case of hysteria and informed her mother, that I believed she would not be rid of her trouble, until after her confinement, but that I confidently hoped, that after that event, she would be as well as ever. The matter went on until about the middle of October, when a physician connected with a charitable institution in Richmond, Va., passed a day with the family, and advanced the opinion, that the case was a grave one, that she ought to be treated vigorously, but that, inasmuch as he did not have his laryngoscope with him, he could not say what the exact condition of things was. At any rate, he quite alarmed, not only the family, but the patient also, and her mother expressed the opinion to me, that she feared her daughter would never regain her voice. I tried to reassure her, informing her, that at the most, she would only have to wait a few weeks to determine whether my diagnosis and prognosis of the case were correct, and that after that time, we could take measures, if necessary to relieve the trouble. She was, or appeared satisfied, to let me have my way about it. On November 1st, I was sent for, was told that the patient had labor pains coming on about once every half hour. Examination disclosed that the head was the presenting part, but the os was closed : the pains, as far as could be judged from the action of the patient from the effect upon the uterus, were trifling, although annoying. This state of things continued until the morning of November 5th, when labor really set in. As is not unusual in such cases, the nervous woman seemed to be totally changed, and bore the pains in the most patient manner, being perfectly calm and submissive. For the first time in my life I enjoyed, if you can call it enjoyment, the spectacle of a voiceless labor. No matter how strong the pains, the vocal evidence was always given in a whisper almost inaudible. Labor was terminated under ether and by forceps, at about 3 P. M. Dr. Peter, of Georgetown, administering the anæsthetic and ably seconding my efforts at extraction. There was considerable hemorrhage, but the uterus promptly and firmly contracting, it ceased upon the birth of the child, a female, healthy, well proportioned and living. As soon as

the anæsthetic effect of the ether passed off, the young mother became exceedingly violent in her actions, and now gave vent to her feelings in anything but a whisper. Her voice was entirely restored and her loud outcries might have been heard the distance of a square. In order to quiet her, she was given morph. sulph. gr. $\frac{1}{4}$ hypodermically, she also had some brandy. Inasmuch as the case, thus far, had verified my prediction, that she would regain her voice, after the birth of the child, I, of course, felt correspondingly elated, but when I again saw her at about 9 P. M., she was as mute as ever. Still I held to the theory that the aphonia was due to the altered condition of the uterus, and that at no distant day it would disappear as suddenly as it had come. I informed her greatly distressed family of this opinion and waited for developments. Her lying-in progressed as favorably as could be, she took a sufficient amount of solid as well as fluid nourishment, and in all respects, save the aphonia, got along as though she had had a perfectly easy and normal labor. But the aphonia persisted, and matters went along until the morning of Nov. 12th, the eighth day after the birth of the child. At that time, while alone in her room, she felt a sudden, severe bearing down pain in the region of the uterus, which to use her own expression ; almost made her cry out." As soon as the pain subsided, which was in a minute or two, she thought to herself that she could talk aloud, and thinking it, in a sort of semi-unconscious, or involuntary manner, said, "I believe I can talk now." When I saw her about 12 M., her voice was entirely restored and has remained so since.

I report this case, Mr. President, first because I have never before seen so typical and uncomplicated case of what I believed at the time and believe now to have been hysterical aphonia, due to bilateral paralysis of the crico-arytinoid muscles. At the time of my first attendance, I had not seen Dr. Weir Mitchell's book on diseases of the nervous system, which I have read since. This writer, on pp. 194 and 195 gives the symptoms almost exactly as they showed themselves in my case. Especially that part of his description in which he details, the exceptions to the loss of voice in this disorder. He says : "The patient cannot speak or can only whisper with mouth or larynx so faintly as to be scarcely heard with the aid of the ear-trumpet ; * * * * she may be able to speak

aloud in her sleep, and then only." Speaking of a special case, he says: "The unwonted sound of her own voice would awaken her, and the disappointment which followed the next waking effort at speech was most distressing, and the emotions thus occasioned gave rise, like all emotions, in such cases, to an even greater loss of what mere whispering power was left." My patient, it is true, did not speak during sleep, but she spoke, and loudly, as the influence of ether was passing away, and her disappointment, after waking, from the combined effect of morphine and brandy, was most distressing to witness: the paramount idea with her being, that she could never speak to her baby. Second, as the *causa nexus* between the condition of the uterus and the vocal paresis, it seems to me there can be no doubt that the pregnant uterus, or more correctly speaking, its sensory nerves, sent inhibitory impressions to that part of centre of the pneumogastric nerve, from which arise the fibres of the inferior laryngeal branch of that nerve, thus paralyzing the muscles concerned in phonation. As to the manner in which this and other inhibitory phenomena are brought about, there is as yet difference of opinion, but by accepting either of the two leading theories, the phenomena may be explained. Under the theory of Setschenow, who holds that there are inhibitory centres throughout the entire cerebro-spinal axis, which, if excited beyond a certain point, are capable of inhibiting action of reflex centres with which they are in communication, we may say that the peculiar condition of the uterine nerves, caused excess of action in some inhibitory centre capable of checking the motor centre in the medulla oblongata. While if we adopt the interference theory of Goltz, we may say that the afferent impressions proceeding from the uterus, interfered with the afferent impulses which normally excite the centres governing the nerves and muscles of phonation, such impulses in the normal condition, generally proceeding from the brain, quite likely passing from the volitional portion of the cerebral cortex by way of the third left frontal convolution. By this interference the same result was obtained; i. e., depressed action of the centres and consequent aphonia. Third. My diagnosis was based upon the history of the patient, her, to me, well-known excessive nervous excitability, the suddenness of the onset, the entire absence of any other paralytic symptoms, the presence of pregnancy, and upon the

fact that she suffered little or nothing from gastric disturbances. The diagnosis thus, as I believe, having been correct, I trusted that the *restitutio ad integrum* of the organ causing the trouble, would also end it, and end it as suddenly as it had produced it; accordingly I ventured upon a favorable prognosis, upon the principle that holds good in medicine as well as anywhere else and expressed in the old adage: "*Ablata causa tollitur effectus.*"

It may not be uninteresting to state that several years ago I saw one of the most typical cases of aphonia in a member of the same family, a younger sister of my patient.

MS. A. 5. 10. 85-89, # 2, Aug 1882

THE EVOLUTION OF MEDICINE.*

By E. P. HURD, M.D., Newburyport, Mass.

The history of medicine from the earliest times has been, not so much a history of human folly, as of an attempt by the human mind to grapple with a problem for whose solution the data did not exist.

The primitive man stood in awe before the mystery of disease, and saw only the presence and intervention of malignant supernatural agencies. Sickness was a possession which could be remedied only by propitiation, sacrifice and exorcism.

Man civilized and enlightened is slow to regard disease simply as abnormal physiology, and not as an evil principle which has taken possession of the patient, and must be ejected by violent measures. Beasts of the field abandon a sick comrade to death, and savage tribes have often manifested terror, distrust and despair before plague and pestilence; these being the god's expression of displeasure for the offence of somebody.

"The King of men, the reverend priest defied,
And for the King's offence the people died."

Ages elapsed before there was any knowledge of pathology or therapeutics worthy of the name. There were thousands of epileptics before anybody studied into the causes and conditions of

*Read before the Tuesday night "Club," Newburyport, Mass.

epilepsy. An epileptic was a person possessed of an evil spirit. Men were familiar with fevers for centuries before any one undertook to classify fevers, and define their laws. Multitudes got well of inflammations before the name inflammation was pronounced. But with the evolution of the human intellect, morbid phenomena came to be noted and classified. As men became observant of the facts of disease generalizations were made, and the first stage in scientific medicine was attained. Groups of symptoms were noted, and such words as fever, inflammation, consumption, palsy, and dropsy came into use.

Before men could theorize concerning disease they were called upon to treat disease. Necessity created therapeutics, and careful observation noted what remedies did good in particular cases. Thus empiricism was established.

Hippocrates, B. C. 460, brought medicine from a state of chaos to one of comparative order, earning the title which the common consent of mankind has given him of Father of Medicine.

The merit of Hippocrates consists in his having been the first to formulate the natural history of disease. As dissections were forbidden the Greeks, he knew but little of anatomy, though his surgery of the bones, his treatment of fractures, and dislocations was good. In his ignorance of anatomy he confounds nerves, arteries, veins and tendons together, and speaks vaguely of the muscles as flesh. But he was an attentive observer of disease from a clinical standpoint, and many of his descriptions of morbid states have never been surpassed. It was a natural history based on superficial traits; the general grouping of symptoms that constitute a "lung fever," a "phthisis," a dysentery," an "erysipelas," a "phrenitis," were seized by him, as by the hand of a master, and described in luminous characters. He believed in a spiritual principle which struggles against disease, and which he called Physis, or Nature; to favor the efforts of this principle should be the object of the physician. His famous precept "follow nature," has been the guide of the enlightened physician in all ages. Nature is sometimes enfeebled and needs to be supported, and sometimes violent and refractory and needs to be coerced.

Hence his treatment was not always expectant, but included bleeding, purgatives and sudorifics. He opposed charms, incanta-

tions and all occult practices, and aimed to base his therapeutics on the results of careful observation. He gave valuable lessons in etiology, diagnosis and prognosis, and indicated what experience has proved to be the proper diet for the sick and convalescent.

In the time of Hippocrates, and as a result of his patient and painstaking observations, medicine had advanced nearly as far as it could advance without the help of the foundation sciences, anatomy, physiology, chemistry, physics. Diseases had been classified and described, the ascertainable causes set forth, and the influence of heredity shown. But how could diseases of the brain be well understood by men who taught that the brain is a cold inert gland, whose office it is to secrete the phlegm? Or diseases of the heart by men who supposed that the principal office of the heart was to send forth the animal spirits which were drawn in with every breath? Or affections of the blood vessels, fluxions, hemorrhages, obstructions, aneurisms, by men ignorant of the circulation, ignorant of the true function of arteries, veins, and capillaries? How could nutrition, digestion, secretion, absorption and their derangements be understood until the circulation of the blood was known?

How crude must have been the notion of the animal fluids which reduced them all to four, blood, bile, atrabile and phlegm? Or of the circulation which made the liver the centre of the circulation, as well as the blood-making organ, and the veins the carriers of blood from the liver to the organs and tissues? Crude observation and rash theorizing led to some curious hobbies. Aesclepiades and Themison (successors of Hippocrates) observing the dryness of the skin in fevers, and the benefit following sudorifics, founded the school called Methodism. The main thing in sickness is to attend to the pores. If these are contracted, fever, inflammations, dropsies, result. If too much relaxed, there is *mal-crisis* of the blood—cachexia, debility, phthisis. There are mixed cases where both conditions prevail. Hence their fundamental division: “*strictum, laxum and mixtum.*”

Erasistratus, B. C. 300, was a believer in the doctrine that the arteries carry air. He had, however, observed that in inflammations the arteries are turgid with blood. He, therefore, accounted for inflammations by assuming that there was an escape of pneuma or air from the arteries, which then became filled with blood. It

was assumed, moreover, that bleeding would draw away blood from the inflamed part, hence bleeding was indicated. His system is called "pneumatism."

Thus far there had been a good deal of theorizing. Herophilus and Serapion proclaimed a halt: "You are dogmatizing too much, we must be content to be simple empiricists." "Away then with false explanations of the nature of disease." "We know what a pleurisy or a fever is, we know what remedies have been proved to do good, this is all that we do know." Admirable reasoning, but men will theorize where they have not positive knowledge, and they will erect their fancies into formidable dogmas. The doctrine of Serapion is called empiricism.

Erasistratus, Herophilus and Serapion belonged to the Alexandrian school under the protection of Ptolmey Soter. They had the advantage of dissections (allowed by Ptolmey) and post mortem examinations. They enriched anatomy by many important discoveries. We owe to Herophilus the following familiar anatomical names: "torcula Herophili," "choroid plexus," "arachnoid," "retina," "calamus scriptorius," "duodenum." Herophilus gave a good description of the pulse in health and disease, and indicated its value in prognosis.

CELSUS.

Celsus who lived about the time of Christ, founded the Eclectic school. Like Serapion he denounced the dogmatism of the Hippocratic school, and taught that it was best to be content with the simple facts of observation and experience. Celsus added nothing to anatomy and physiology.

GALEN.

Galen, born about A. D. 150 was a voluminous writer. He made many original investigations. Was influential and successful as a practitioner. Galen taught with authority and assurance, and reigned supreme in medicine for more than 1300 years. Nine books on anatomy give the results of his dissections of apes and barbarians, and treat very fully of the coarse anatomy of the bones, ligaments, joints, muscles and viscera. Very many of our anatomical names originated with Galen. He describes very well the *mechan-*

ism of respiration and vocalization, but has no correct idea of the physiology of either respiration or circulation. He repeats the errors of Hippocrates;—that the heart sends out through the arteries *air*, aspirated by the lungs and conveyed to the left auricle by the pulmonary veins, to refresh the animal spirits. Galen also taught that the arteries convey blood, so that he seems to have had a notion of the air being dissolved in arterial blood, a decided approach toward the true scientific doctrine. We now know that the arteries do not carry air, but we know that they carry oxygen, the essential element of the air, the life giving principle, and that the oxygenated blood does refresh the “animal spirits” by supplying to the nervous centres, oxygen, the “compellor of change,” and pabulum. Galen refutes the notion of those who regarded the brain as a cold inert gland, of use only to cool the humors and secrete the phlegm. To him it is the seat of reason, intelligence and will. It elaborates the animal spirits in the ventricles from the air which comes from the heart. Some air he also thought got to the ventricles through the holes in the cribriform plate of the ethmoid bone. Galen denied that the heart is the centre of sensibility and feeling, and cited experiments of his own to prove this. Galen by bringing into his study the procedures of the experimental method laid the foundations of the true physiology. He adopted all the Hippocratic errors as to the four humors whose equilibrium produces health, whose excess or deficiency produces disease.

To explain functional acts he invented particular forces, or faculties. Thus food is conveyed to the stomach by an attractive faculty, kept there by a retentive faculty, until it is converted into chyme by an alterative faculty, made to pass into the duodenum by an expulsive faculty to be taken up by the veins, and carried to the liver where it was converted into blood by a blood-making faculty. The heart, in the estimation of Galen, is the centre of vital faculty. There is a measure of truth in this, for integrity of the heart is essential to the maintenance of the vitality of the tissues. Galen's writings added little to therapeutics, but much to surgery.

[To be continued.]

SELECTED PAPERS.

DISPLACEMENTS OF THE UTERUS.

There are few conditions of the uterus of more importance, if the teaching of many prominent gynæcologists is to be accepted, than its displacements. They are accountable for dysmenorrhœa, sterility, and reflex symptoms too numerous to enumerate. There are instruments which have been devised, and largely employed, to correct them, which sometimes produce death, frequently prolonged illness, and at best, entail multiplied manipulations of the genital organs for a long period—proceedings which sometimes produce moral effects even worse than the physical symptoms against which they are directed. Patients have been doomed to the bed or couch for months or years for the same end. And yet, notwithstanding the firmness of conviction which has made so many think themselves justified in recommending measures which, if not curative, are so hurtful, there have not been wanting physicians who have denied the whole theory upon which such treatment is based. It is obvious, therefore, that the settlement of this question is a matter of grave importance.

A paper was last year read before the Obstetrical Society, of London, by Dr. Herman, in which he stated, as the result of his investigations, that pronounced ante flexion occurs in nearly half of all nulliparous women, and that it is just as common in those who menstruate without pain as in those who menstruate with pain; and that painful menstruation is as common in those whose uteri are not ante flexed as it is in those whose uteri are ante flexed. If these assertions be correct, it follows that the connection of ante flexion with dysmenorrhœa (the disease which is supposed to be its most marked and frequent consequence) cannot be one of cause and effect.

The last number of the *Archiv für Gynäkologie* contains a paper by Dr. Vedeler, of Christiania, based upon the same principle, but upon somewhat different lines. The principle we mean is that of ascertaining how often the so-called displacements occur in healthy women, before drawing inference from the frequency of their occur-

rence in those who are suffering. Dr. Vedeler's researches embrace all the so-called displacements excepting inversion.

Dr. Vedeler defines the "so called" normal position of the uterus as being that in which neither the anterior nor the posterior wall of the organ can be felt per vaginam; when this is the case, the axis of the uterus may be considered as that of the pelvic brim. By an unhealthy uterus (*kranken Gebärmutter*) he means that of a patient who complains of symptoms referable to the pelvic organs, or pointing to organic changes in those organs. Dysmenorrhœa he does not include; he promises hereafter to treat that symptom separately. Nor does he include diseases of the lying-in period, large intra- or extra-uterine tumors, or large para- or peri-metric exudations. But the smallest erosion, the slightest perimetric adhesion, or the least painful sensation, sufficed to make him class the uterus as unhealthy. In those classed as unhealthy there was a complete absence of all symptoms.

Dr. Vedeler's researches embrace 3,012 cases. Of these, the so-called normal position was found in 458 cases only, or 15 per cent.; anteversion in 361, or 12 per cent.; retroversion in 301, or 10 per cent.; ante flexion in 1,648, or 54 per cent.; retroflexion in 226, or 8 per cent.; and prolapsus in 18, or 0.5 per cent. Ante flexion therefore, Dr. Vedeler remarks, is commoner than all the rest put together, and, if the term is to be used in its usual sense, should be called the normal position of the uterus.

Dr. Vedeler next gives us information as to the position of the uterus in its different functional conditions. The following is the table which he presents:

	Virgins.	Nulliparæ.	Gravidæ.	Uni- and Multi-paræ.
"So-called" normal	7	11	4	22 per cent.
Anteversion.....	7	9	10	18 "
Retroversion.....	11	11	2	10 "
Ante flexion.....	71	66	80	37 "
Retroversion.....	3	3	4	12 "
Prolapsus.....	—	—	—	1 "

The chief point which this table appears to show is, that child-bearing has the effect, in nearly half the cases, of straightening the ante flexed uterus.

We come now to the important part of the paper, that which

bears on the question, do these so-called displacements cause any symptoms? Our author takes first virgins, with the annexed result:

	Healthy.		Ill.
Normal.....	27 = 7 per cent.		3 = 6 per cent.
Anteversion.....	33 = 8	"	2 = 3
Retroversion.....	45 = 11	"	9 = 17
Anteflexion.....	296 = 71	"	36 = 70
Retroflexion.....	13 = 3	"	2 = 3
	<hr/> 414		<hr/> 52

Then follow nulliparae, from whom the following figures are obtained:

	Healthy.		Ill.
Normal position.....	47 = 6 per cent.		35 = 15 per cent.
Anteversion.....	34 = 7	"	33 = 13
Retroversion.....	47 = 9	"	33 = 13
Anteflexion.....	361 = 71	"	134 = 56
Retroflexion.....	17 = 3	"	8 = 3
	<hr/> 506		<hr/> 243

Lastly, uni- and multiparae:

	Healthy.		Ill.
Normal position.....	132 = 22 per cent.		202 = 23 per cent.
Anteversion.....	105 = 18	"	120 = 13
Retroversion.....	57 = 10	"	103 = 12
Anteflexion.....	221 = 27	"	334 = 38
Retroflexion.....	69 = 12	"	104 = 12
	<hr/> 584		<hr/> 863

As we mentioned in the beginning, Dr. Vedeler reserves what he has to say upon dysmenorrhœa; but, with the exception of this symptom, his figures plainly show that, putting aside prolapsus and inversion, the other so-called displacements cause, as a rule, no disturbance whatever, subjective or objective; they are met with just as often in the perfectly healthy as in those suffering from uterine symptoms.

The position which the advocates of the mechanical system of uterine pathology assume to be the normal one, is shown to exist in only a small minority of cases, and to be, if anything, rather commoner in disease than in health. Anteflexion, which, according to one eminent authority, "rarely fails to entail trouble," Dr. Vedeler,

as well as others, finds present in the majority of healthy young women. With regard to this affection we have information as to the symptom which Dr. Vedeler omits, viz, dysmenorrhœa, which has been shown, so far as statistical evidence can prove the point, to depend in no way upon ante flexion.

If it were only maintained that the ill consequences attributed to displacements were their occasional and rare results, of course figures such as those we have quoted would not prove the contrary. But the very reverse is held. The displacements are held to be the keystone of uterine pathology; the *fons et origo* of most uterine symptoms; conditions which only exceptionally exist without causing suffering. Against such a view the statistics we have put before our readers are absolutely conclusive. The broad fact, that the displacements are quite as common in the healthy as in the sick, must be explained or shown to be erroneous, otherwise it is fatal to the mechanical system of uterine pathology. That which is most surprising is that, notwithstanding the many years that this theory has been before the profession, has been advocated, discussed, and practiced, no one until quite recently should have ever thought of investigating the primary and fundamental question raised in the researches to which we have referred—the question upon which depends the whole theoretical edifice.—*London Medical Times and Gazette*

SUPPOSED DEATH BY CHLOROFORM.

By R. A. KINLOCH, M.D., of Charleston, S. C.

It is desirable that there should be recorded every death attributable to either of the anæsthetic agents in use, for it has hardly been settled that one of these agents should be universally employed because of its immunity from danger. In certain sections of our country and of Europe, chloroform is still the favorite article used, for its general adaptability and because in the largest experience it has proved safe as well as satisfactory. In other sections there is a strong prejudice against chloroform, and a belief that ether is

entirely free from danger. I have, in an experience of over thirty years, never had occasion to distrust chloroform, and have never until now seen a death attributable to its administration. From very many experiments and observations, however, I have been led to believe that ether is less apt to be followed by nausea or by great depression of vital power. My rule of practice then, in late years, has been to employ chloroform in surgical and obstetrical practice, except in operations necessarily protracted, or where nausea and vomiting would be prejudicial to the condition of the patient. I am inclined to doubt if the death, in the case which follows, can be attributed solely to chloroform. Fright, terrible anxiety, a peculiar nervous organization, and an exalted moral sensibility, may have had much to do with the sad termination. But I prefer reporting the case and leaving it to the verdict of the profession.

Further interest attaches to it from the fact that the secular press has circulated through the country the grossest mis-statements regarding the case itself, and the conduct of the physicians connected with it. I will notice and correct only two of these. It has been falsely stated that assistants were introduced into the operating chamber of the patient against her wishes, and while she was insensible from chloroform. The truth is, the consent of the lady was freely given, because she knew the assistants were necessary. Her only desire was that she should be chloroformed before they were introduced. Next, it has been affirmed that the cause of death was suppressed in order to shield the physicians, and to prevent a coroner's inquest. The truth is, the death (although the matter was rather doubtful) was at once assigned to the chloroform. This was announced frankly to the family of the deceased and to others. Moreover, a mortuary certificate of death from *chloroform narcosis* was handed to the City Registrar, in order to obtain a permit for burial.

The Case.—On the 4th of May, 1882, I was called to attend Mrs. L. R., who had long been an invalid, and been attended before by two very worthy practitioners of this city. She was aged about 40, married, a mother of two children, the last being six years old. I found her thin, anæmic, unable to exercise without much backache; never sleeping well at night; having usually prolonged and profuse menstruation—in the intervals, much leucorrhœal discharge great

bearing-down sensations, with vesical and rectal tenesmus ; difficult digestion and constipation. These symptoms, in part, pertained to her since the birth of her first child, but had been more continuous and severe for several months past. There now also is complaint of severe paroxysmal cough, with the physical signs of sub-acute bronchitis on both sides of the chest. The pulmonary symptoms Mrs. R. attributed to a recent cold. She said she had sent for me chiefly to relieve her of the trouble which she had had during many years, and which made life a burden to her. She said she knew the disease to be uterine. Other physicians had treated her for this ; but she was in hopes that a radical operation might relieve her. There was prevailing an epidemic of whooping cough, and the children in the house had suffered. Mrs. R. had formerly had the disease, but the character of her pulmonary symptoms led me to believe that she was to some extent suffering from the "epidemic constitution of the atmosphere." She was anxious for a thorough examination ; so, after prescribing for her cough, I appointed an early day for the purpose, and in due time discovered a left lateral fissure of the cervix, reaching to the cervico-vaginal junction ; also an elongated and enlarged cervix, a prolapse of the bladder, and prolapse and partial retroversion of the uterus. I gave as my opinion that much could be done by treatment, both local and general, but that, first of all, the cough must be relieved, and the digestive organs improved. In time, I proposed to apply local remedies to the uterine and cervical cavities, and to close the fissure by operation. Mrs. R. was intent upon an early operation, as she said she had been too long trying palliative remedies. I could with difficulty persuade her that these radical means must for a time be postponed. After about a month's general treatment, part of which time I was absent from the city, Mrs. R. had so improved that she again renewed the question of operation, saying that her cough did not now affect her, and that she wanted to be attended to before leaving the city for a summer's vacation. While regarding her as a rather bad subject for any operation, I, nevertheless, thought the cervical fissure could be closed without risk, and that, by the use of a pessary, she could be enabled to go comfortably into the country.

June 19th was appointed for the operation. Mrs. R. had always been exceedingly sensitive as to the matter of personal exposure,

and I readily consented to give the chloroform only in the presence of female attendants. When the request was made for the patient to get upon the table, she became much excited, and could scarcely be comforted and assured. She shrank back as one having a feeling of impending danger. I subsequently learned that she had had a presentiment of death, and went so far as to write out requests she wished fulfilled after death. I mention these facts to illustrate the nervous condition of the subject, as with many it may be considered as having something to do with her sad end. The chloroform was given upon a towel folded funnel-fashion. The towel was at first held a little distance from the face, until the patient grew accustomed to the vapor and was habituated to the proper inhalation. The usual period of excitement came on, with some struggling of the arms and rolling of the body. One of the female attendants helped to control these movements, and in a short time relaxation began to be evident, with the slightest stertor of breathing. Less than three drachms of chloroform had been used. I at once suspended the chloroform, passed the towel over to the nurse, who was at the bedside, and a little removed, and asked her to hold it where she was. I felt no apprehension about the patient, and moved to the door separating the chamber from the parlor, and called to Drs. Simons and Pelzer, my assistants, to enter. I now took my position at the foot of the table, while my assistants remained at the side, and began to put the patient into the semi-prone and lateral position for operation. I little thought that during the few seconds of absence the cumulative effects of the drug would be exhibited. Glancing at the face of the patient, I suddenly discovered that it was cyanosed, and the eyes staring and fixed. I called to Dr. Simons to notice if the breathing was right, and almost simultaneously we both advanced to the patient's head. I saw that the respiration was embarrassed, and heard a gurgling noise coming from the presence of mucous secretions in the bronchi. Dr. Simons raised the head of the patient, and turned the body partly over into the supine position. I threw up the windows, dashed cold water upon the face and chest, slapped the surface smartly, depressed the head, while the body and lower extremities were raised, injected brandy, and subsequently liquor ammonia and brandy, subcutaneously. Towels were wrung out of very hot water

and applied over cardiac region. Used galvanic battery as soon as this could be secured. Finally, noticing that the respiratory movements were now entirely arrested, also the action of the heart, while the veins of the neck were greatly distended, I opened, first, a vein at the bend of the arm, and afterwards the right external jugular, hoping that, by removing some of the dark blood from the cavities of the heart, this organ would have a better chance for contracting. All to no purpose—the heart remained paralyzed, and we had soon to realize the fearful fact that death had supervened.

[Charleston News and Courier.

A COMPLETE EXPOSITION OF THE FALSEHOODS OF THE CHARLESTON CORRESPONDENT OF THE NEW YORK TIMES.

At a special meeting of the Medical Society of South Carolina, held July 12, 1882, the President, Dr. Michel, called the meeting to order and stated that its object was to contradict certain false statements in regard to a recent death by chloroform, in the practice of our friend and colleague, Dr. R. A. Kinloch.

After hearing the facts of the case a committee of three was appointed to frame resolutions expressive of the views of the Society, and to report at an adjourned meeting to be held July 15. The following report of the committee was unanimously adopted and ordered to be published in *The News and Courier* and *New York Times* :

To the President and Members of the Medical Society of South Carolina :

GENTLEMEN :—The committee appointed at the meeting of the Medical Society, held July 12, 1882, to report upon the subject of the death of Mrs. Loughton Reid, and the statements connected therewith as they have appeared, first in the *New York Times*, of the 4th inst., and subsequently with additions and alterations in various newspapers throughout the country, after having carefully examined into the subject beg leave to report :

1st. That they regard these newspaper publications as affording the most striking evidence of unfairness, untruthfulness and misrepresentation that it has ever fallen to their experience to consider, in connection with the report of medical matters, as given by the secular press. Your committee are fully in accord with the members of this Society generally, in their feelings of indignation at the injustice done, most particularly to Dr. R. A. Kinloch, Mrs. Reid's physician, and also to Drs. T. Grange Simons and A. P. Pelzer, all respectable and worthy members of the profession, by the erroneous, and what appears to be, studied and malignant statements, prejudicial to their personal and professional conduct.

It is unnecessary for your committee to go into the details in regard to these statements. They would only say that in their opinion the newspaper publications contain at least ten misrepresentations. The only item of truth is that Mrs. Reid most probably died (as frankly stated by her physician) of "Chloroform Narcosis." This we regard as simply one of the calamities of surgery that could not have been foreseen or prevented. The agent was, we have reason to believe, given in the most improved and careful method, in the presence of witnesses, and probably proved fatal because of some peculiar condition of Mrs. Reid's nervous system, which amounted to an idiosyncrasy. The records of medicine and surgery show many such cases. The operation to have been performed upon Mrs. Reid was a justifiable and necessary one. At least two assistants were necessary and these assistants were engaged by Dr. Kinloch with the distinct approval of Mrs. Reid, the only stipulation being that she should be made unconscious by chloroform before they were introduced. Dr. Kinloch in administering the chloroform simply, in the presence of two female attendants, carried out his promise to his patient. In regard to the supposed cause of death Dr. Kinloch announced this openly and frankly, and assumed the entire responsibility. The sister and husband of the lady were first informed, and as soon as applied for the mortuary certificate of death from "chloroform narcosis" was given to the family to be forwarded to the City Registrar *for permission to bury*. In view of all the above facts your committee would present the following resolutions for your consideration :

1st. That, in the opinion of this Society, the death of Mrs. Reid

from chloroform was not caused by imprudence or carelessness in the use of the agent, but from the fatal properties of that drug, which at times will manifest themselves in persons of peculiar temperament or constitution.

2d. That the misrepresentation of the circumstances of this unfortunate case seem to have been intentionally made, inasmuch as all the family and friends were fully informed of the circumstances of the death of Mrs. Reid, and the facts of the case could have been easily obtained and correctly reported.

3d. That we extend to our colleague, Dr. R. A. Kinloch, the attending physician, and his assistants, our sincere sympathy, not only for the unfortunate death of the patient, but because of the unjust position in which they have been cruelly placed.

4th. That we protest against the too frequent custom of the secular press of intruding upon physicians in the discharge of their duties, and thus tending to embarrass them in proceedings which they may be conscientiously instituting for their relief of suffering humanity.

5th. That we consider the circumstances of the case sufficiently aggravating to justify the immediate institution of legal proceedings against the parties offending.

Respectfully submitted,

J FORD PRIOLEAU, M.D.,	} Committee.
F. L. PARKER, M.D.,	
MANNING SIMONS, M.D.,	


PROF. VON LANGENBECK ON IODOFORM.—At a recent Congress of German Surgeons, Prof. von Langenbeck spoke warmly in favor of this substance, not only for its power of diminishing secretion, but of relieving pain. In his cases he seldom had to employ more than five grammes, and only quite exceptionally, as much as 15 grammes. One special advantage he had derived from it in plastic operations, was due to the soft elastic cicatrix which formed under the scab where it was used, so that transplantation often became superfluous. In a case of extensive nævus, which he had removed from the region of the lower eyelid, (which formerly would have required a second operation to relieve the ectropion), a soft smooth cicatrix was left, which produced no deformity whatever.—*Medical Times and Gazette from Deutsche Med. Woch.*, June 24.

EDITORIAL.

NORTH CAROLINA MEDICAL JOURNAL.

A MONTHLY JOURNAL OF MEDICINE AND SURGERY, PUBLISHED
IN WILMINGTON, N. C.

THOMAS F. WOOD, M.D., Wilmington, N. C., Editor.

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FATAL CHLOROFORM NARCOSIS.

Deaths from chloroform are exceedingly rare in the South, notwithstanding the fact that this agent is almost exclusively used. The same experience attended chloroform administration in the Confederate army. There is good reason, therefore, why chloroform is the favorite anæsthetic in the South. For the past twenty years, the choice of anæsthetics has been discussed with as much ardor, and with the same intemperate language as we are accustomed to hear from old partizans. Indeed, the prejudice *pro* and *con* is so great, that the old political lines between the North and South, divide the chloroformists from the anti-chloroformists.

If experience in the use of an anæsthetic agent can serve as a basis of selection, we cannot understand why we cannot as safely follow one great body of physicians as another, and we believe that it is a damaging blow to the advance of therapeutics to persistently denounce chloroform in view of the present condition of medical experience, as it would be premature to denounce ether. Certainly the argument cannot as yet be established upon statistical grounds,

for either side, although a vague numerical statement is dwelt upon with the greatest satisfaction by the anti-chloroformists. Medical journals in the Northern States are never tired of publishing deaths from chloroform, in order to read a sermon to the chloroformists. One of the leading medical journals in the north, a journal presided over with superior ability by a therapeutical teacher second to none in any country, indulges in the following expression against chloroform:* "The dangers which surround chloroform have been too frequently written about and have been too often tragically exemplified to need further comment. He who still persists in the habitual use of chloroform seems to us beyond the reach of argument or human speech. We let him alone." Again, the same journal says: "Indeed, chloroform should not be administered at all except under the sign of the skull and cross-bones, to give the patient fair notice of his danger." That this is intemperate language, but few physicians of long experience will deny. Let the same writer analyze a death from ether, and see how quickly he assumes a different tone. Dr. Roberts, of Philadelphia, reported deaths from ether, and abundant explanations are forthcoming, showing why other agents besides ether may have been responsible for the death.

An inexperienced medical man, who relies alone upon what he reads of chloroform anæsthesia in the northern medical journals, would be frightened into shunning it forever as an agent, too dangerous to be employed, and that the employment of ether was safe beyond question. Of course the facts do not bear out the assumption of the safety of ether.

Only recently we get an account from England by Mr. Lawson Tait, of a death from ether. The patient was a lady who was operated upon for abdominal tumor. The ether used was "absolute anhydrous methylated sulphurous ether, .717" Less than half an ounce was put on the sponge of the inhaler, and an Ormsby's inhaler was placed over the patient's face, with the air valve opened. In about five minutes the pulse of the right wrist was gone. The breathing was at this time regular and deep. The pupil was peculiarly dilated, which Mr. Tait, having seen once before, knew meant death. Dr. Saundby made a careful post-mortem examination, finding the heart unusually small, (four ounces weight,)

*Philadelphia *Medical Times*, June 4th, 1881.

the right side filled with clot, the left side empty. Mr. Tait believes that the death was one of asphyxia, due to the inhaler, the patient breathing over and over again the same air and ether. The death occurred before the operation was begun.

Now, if chloroform is only to be administered "under the sign of the skull and cross-bones," what must be the insignia for ether? For as ether is becoming more and more the fashion, and the number of deaths from it increasing, the young surgeon must be warned, also, in time, of the danger of ether anesthesia.

The recent unfortunate death from chloroform, in the practice of Prof. R. A. Kinloch, in Charleston, is much to be regretted on account of the loss of a very valuable life on the one hand, and on account of the false and damaging reports which have been printed in the daily papers. Dr. Kinloch gives us a full and straightforward account of the case, which we lay before our readers. We also give the action taken by the Medical Society of South Carolina, and sympathize with, and fully endorse the action taken by that body, in defending the reputation of their worthy colleague.

We think that Dr. Kinloch's case only reaffirms the fact, that anesthesia is dangerous. But why be led into the folly of believing that it is true only of chloroform anæsthesia? Have we not abundant testimony of death from all the anæsthetics? The worst cases of heart failure from anæsthetics we have seen, was one from the use of nitrous oxide gas, and the other from the bichloride of methyl; on the other hand we have many times seen the pulse of a patient under our treatment for railroad accident, rally from shock by the use of chloroform. For all this, though, we would not dare to withhold from our patients the warning of the danger of anæsthesia from chloroform or any other agent. It is the condition of anæsthesia that imperils the life, and it matters not what agent is employed.

The *Medical News* (August 5th, 1882,) criticizes the method of administration of chloroform in the case of Dr. Kinloch, stating the percentage of air that should be admitted to the inhaler. This criticism does not occur to us to be the suggestion of a practical chloroformist. No rule can be devised to determine the density of chloroform vapor for every varying idiosyncrasy. While the use of the cone may not be the best inhaler, its chief fault lies in the fact that

it is uneconomical. As far as the amount of air which passes through the towel can be estimated, the only sure guide is the breathing of the patient. It is true that chloroform vapor is denser than the air, but the force of respiration and inspiration causes a due admixture of the air and chloroform, and the watchful administrator is able to judge with considerable accuracy how rapidly he can push the anæsthetic. No device in the way of an inhaler, and no rule as to the density of anæsthetic vapor, can substitute practical experience. As for M. Paul Bert's *zone maniable* in anesthesia, it cannot be defined by the statement of the precise numbers of grammes likely to produce fatal results; it is as impossible as the estimation of the amount of alcohol sufficient to make a person drunk. For as this would vary at different times with the same person, so the amount of chloroform necessary for anesthesia varies.

Now one word upon the use of nitrite of amyl. A long experience with chloroform anesthesia, will not prepossess one so favorably with amyl nitrite as an antidote. Its reputation is at this date, not damaged materially; but as it is put to the test more thoroughly, its fate will be like that of other antagonists. The employment of it by subcutaneous injection as spoken of by the *News* is not at all a common practice, and can only pass, at this writing, as a very intelligent suggestion. Bartholow,* does not mention its employment in this way. After all, we believe that no means are so potent in rousing suspended animation, as the application of cold and heat and other external agencies; with artificial respiration, and these were vigorously used in the case in question.

No one can determine beforehand, even by the most careful examination of the heart,† whether or not the patient will go successfully through an anesthesia.

*See last edition of *Pract. Treatise Materia Medica and Therapeutics*. 1882.

†In a correspondence from J. Lionel Strelton, L.R.C.P., St. Bartholomew's Hospital, recently drawn forth by Mr. Lawson Tait's case of fatal ether narcosis the following paragraph occurs: "I must repeat, in the most emphatic terms, that no examination of the heart is necessary in any case. For that form of heart-mischief (degeneration of the muscular tissue) which contraïndicates the use of chloroform is indistinguishable during life. Nothing can be felt or heard which will put the administrator on his guide;" and if the patient have some organic lesion, such as aortic disease, for instance, it does not contraïndicate the chloroform, and I have often given it in these cases without any ill effect."—*British Medical Journal*, July 15th, 1882.

We have abundant evidence at hand to show, that the sort of fatal shock attributed by some entirely to chloroform, was well known before anesthetics were employed in surgery, and that the cause of death in these pre-anesthetic cases was probably due to the influence on the nervous mechanism of the heart.

Mem. J. (OS.) 10: 104-106, # 2 Aug. 1882

WHAT MEDICAL STUDENTS SHOULD BE TAUGHT.

This whole matter of medical education is clearing up in a way hardly foreseen by anxious reformers. Medical College Associations have expended all their power, and have finally been compelled to relinquish the work.

Medical societies have legislated upon, it and could think of nothing better that they could do than to recommend an examination as to preliminary education, and a thorough office training.

Medical colleges felt obliged to do something and lengthened their terms to three years, most of them with the proviso that the third term should be optional with the student.

But the matter has taken an unexpectedly favorable turn of late. It has been found that students were taxed too much with useless studies. For instance, materia medica, a department of medicine which our old foggy teachers have insisted on for so many years, is now found to be unnecessary, except as a post graduate accomplishment. "For what use is it for the doctor to know that *urva ursi*, grown in northern Europe and Asia; or that rhubarb has often a hole drilled through each piece, which was made there to pass a string through in order to dry the drug; or that the impurities of opium are sand, stones, vegetable extracts, treacle, &c."

The New York *Medical Record* coincides in this belief with Huxley, and would diminish the curriculum by this branch, and so make room for more weighty matters.

But further than this, without ever having the grace to publicly discuss the utility of their action, some colleges are lopping off the course by neglecting chemistry in a shameful way. According

to the statement of several graduates recently applying for license from the North Carolina Board of Examiners, the chemical course is admitted to be a mere formality. In one college, the Professor of chemistry was not allowed a vote in making up the awards for diplomas. Surgeon J. H. Bill, U. S. A. in the *Medical Record** gives some most interesting observations from his experience as an Army Medical Examiner. He says the Army Board "has searchingly examined over 500 men, graduates in medicine, many graduates also in arts, but of this whole number not more than two or three had any real knowledge of the elements of chemistry, and more were ignorant of the fundamental principles of physics. So flimsy is the chemical smatter possessed by most of the candidates that it has been found difficult to propose questions within their comprehension."

In reality, the medical colleges have cut chemistry in such a way, that if any of them are pushed for time, they ought frankly abolish this from the course of study, and not make any pretensions to teach it.

Special surgery of the eye, the ear, the uterus, the throat, is shown in clinics and lectures are delivered, but students are not expected to pass an examination in them, because specialists got all this sort of work. So, also, with disease of the nervous system.

This narrows the work down to anatomy, physiology, practice of medicine and surgery and obstetrics, (for therapeutics without materia medica would likely be a formality,) all the time the professor of the latter branch has on his hands is devoted to diseases of women and children, and the *spare time* of the professor of physiology to medical jurisprudence.

When it seems most desirable that the medical man should be taught everything appertaining to the science and art of medicine, some are doubting if doctors should learn materia medica or chemistry. These reformers must certainly forget that a very large number of graduates will have to be their own pharmacists for a life time, and if it is neglected in their medical course they must learn the elements of materia medica and pharmacy after they enter the profession.

*"A Plea for a more thorough study of chemistry in medicine and the arts." August 12th, 1882.

Assuming that all established physicians are capable of judging of the fitness of young men applying to become office students, and assuming also that they will discourage all unfit persons, there is no surer way to commence a student right, than by drilling him not only in his text-books, but in the arts of the mortar and pestle as well. A system as nearly akin to the old-fashioned apprenticeship, with a plenty of practical work in the *shop*, is far preferable to the short processes of a medical course with materia medica and chemistry cut out.

The Result of the Ligated Innominate.—Mr. Thompson's case of ligation died on the 20th of July, the 421 day. There was no bleeding after the 39th day. There was an ulcer on the distal side of the ligation. The aorta was atheromatous. Consolidation was proceeding satisfactorily in the tumor. Excluding the successful case of Dr. Smith, of New Orleans, this is the second longest survival on record.

Detection of Vesical Calculi in Children.—Volkman suggests the following: The bladder is to be nearly empty, and under the influence of anæsthetic, an examination is to be made with the left hand in the rectum. The right hand presses firmly above the symphysis pubis, forcing the bladder down upon the rectum. In this way even small calculi can be detected, although he has generally found them to be larger when extracted, than he had expected on examination.

The French School on the Anatomy and Physiology of the Male Urethra.—We take pleasure in calling the attention of our readers who are specially interested in urethral surgery, the review of Prof. Felix Guyon's Lectures on "The Diseases of the Urinary Organs," by Dr. Wm. M. Mastin, of Mobile, in the *Annals of Anatomy and Surgery* of August. French surgery is not behind in this department, whatever may be said of it as regards the others.

REVIEWS AND BOOK NOTICES.

DISEASES OF THE RECTUM AND ANUS. BY CHARLES B. KELSEY, M.D. New York: William Wood & Co., 56 & 58 Lafayette Place. 1882. Pp. 299.

We cannot recall from the list of the many valuable books of Wood's Medical Library, a volume that has given us more satisfaction. It has been only a short time since (*MEDICAL JOURNAL*, volume 7, p. 228) that we had the pleasure of calling to our readers attention the merits of the valuable volume on the same subject, by Prof. W. H. Buren, M.D., but these volumes are so essentially different in the method of treatment, that they easily occupy, as to each, a field of its own. The latter volume is more peculiarly a work of an original master in rectal surgery, written from a full personal experience; the former a well-written digest of the present status of this department of surgery, fortified by clinical experience.

The arrangement of Dr. Kelsey's book is rational and convenient. The introductory chapters are on the anatomy, physiology and abnormalities of the rectum and anus. These are followed by a chapter on examination, diagnosis and operations. Inflammation of the rectum is next considered, and the special pathology and special diseases complete the work.

The illustrations are from various sources, and numerous, some of them very good, all of them instructive, without we are captious enough to object to the preponderance of the well-known stereotyped instruments.

It is the chapter on hemorrhoids that the reviewer turns in such a book, to form an opinion of the practical character of the treatise, and we really find that here is just the kind of knowledge best suited to the general practitioner. It is from this chapter we make up our minds whether the writer has any exclusive methods to laud, or whether he has a large storehouse of experience from which to present his readers with hints of practice; and we may truly say of it that it is conservative and helpful. Here we find the method of treatment by means of carbolic injections into the substance of the hemorrhoid discussed in a candid manner. He has treated many cases in this way, and with the exception of one case reported,

in which there was troublesome ulceration, he has had no reason to regret using it. "Although," he says, "I should be very slow to advocate any one treatment of this affection to the exclusion of all others. I now often adopt this where Allingham's operation (operation by means of a ligature) is declined by the patient, and as yet I have not known it to fail. Its advantages over all other methods, provided its results prove equally satisfactory, are manifest to all. The patient is not terrified at the outset by the prospect of a surgical operation, is not confined to his bed, and is not subjected to any suffering. The cure goes on painlessly and almost without his consciousness." The strength of carbolic solution used by Dr. Kelsey is one part of carbolic acid, to six of glycerine and six of water, and the amount injected each time about five drops. This is done with any ordinary hypodermic syringe. The tumor should be prolapsed, the injection made to enter in the middle of the tumor and deeply, and the tumor returned. The patient should be required to lie down for the day succeeding the injection, and the interval between each attempt should be at least a week.

Fistula in ano is described with great care, and in all its bearings, —the surgical relation, and the classification of the varieties. We wish to quote more particularly from the paragraph on treatment, the advisability of resorting to operative procedure upon patients suffering at the same time with pulmonary disease.

* * * "We are at once brought to the question which will often be asked by the patient, and which the surgeon may not always be able to answer to his own satisfaction, whether or not it is always best, or even safe to try to cure a fistula. In certain cases of Bright's disease, cancer, cardiac and hepatic affections, etc., all surgical interference may be plainly contra-indicated; but the question is most apt to arise in connection with pulmonary affections. There can be little doubt that phthisical patients are especially predisposed to this affection, and the reason is probably in great measure a mechanical one, depending upon a loss of fat in the ischio-rectal fossa and a resulting loss of support to the hemorrhoidal veins. From this there results a venous congestion and final dilatation and rupture of the vessels, which, with the cough and concussion, lead eventually to abscess.

"I believe it to be a safe rule to operate upon phthisical patients as upon others, being led by the idea that one exhausting disease—phthisis—is better than two—phthisis and fistula." Dr. Kelsey has

seen patients improve under this treatment, although he would never advise an operation in an advanced or rapidly advancing case of phthisis.

We are glad that such a good surgeon, as we take our author to be, can speak so encouragingly of the use of the knife in phthisical patients. Our experience has been in strong contrast to this.

Cancer of the rectum is dwelt on at length, and the literature of the subject has been thoroughly studied. What we gather from the author is, that cancer of the rectum is only successfully operated on, and consequently only justifiable, within our present knowledge, when the disease reaches above three inches from the anus, or involves neighboring parts so as to render its entire removal, without injury to the peritoneum, questionable.

In conclusion we will add, that the author has succeeded admirably in giving us a book, which will greatly advance the domain of rectal surgery, and encourage many a practitioner who has heretofore shrunk from this distasteful and unsatisfactory branch of surgery, to essay it again with renewed confidence.

LABOR AMONG THE PRIMITIVE PEOPLES: SHOWING THE DEVELOPMENT OF THE OBSTETRIC SCIENCE OF TO-DAY, FROM THE NATURAL AND INSTINCTIVE CUSTOMS OF ALL RACES, CIVILIZED AND SAVAGE, PAST AND PRESENT. BY GEO. J. ENGELMANN, A.M., M.D. With 56 Illustrations. St. Louis: J. H. Chambers & Co. 1882. Pp. 203.

We called the attention of our readers to the original essay (October 1880, p. 200), of which the work before us is an elaboration. Dr. Engelmann's versatility of bearing has in this another brilliant example. Very few men have the ability to make such a subject so instructive and at the same time so interesting, and it is really astonishing to see what a collection of information upon the labor of savage women from the remotest parts of the world, he has brought together.

If any of our best obstetricians are inflexibly wedded to any particular position for their patients during labor, let them read attentively the variety of postures assumed, and with success in all of them, they will have to confess that there are many good ways besides their own. The first part of the volume considers the posi-

tion of parturient women among peoples whose labor is governed by instinct, and not by modern obstetric fashion; and the position of the women among civilized races of the present day in the agony of the expulsive pains. The other chapters, four in number, take up the third stage of labor; pregnancy parturition and childbed; massage and expression; and, finally, characteristic labor scenes, among the yellow, black, and yellow races.

The illustrations greatly enhance the value of the work. The first one a photo-engraving of a Peruvian funeral urn, with ancient representation of a labor scene. Dr. Engelmann says of it, that it is "one of the oldest distinct and well authenticated representatives of a labor extant." What is apparently the cover of the urn consists of three figures which were clearly intended to represent a woman in labor. The midwife has the parturient woman in her lap and the child is seen partly expelled in front.

Throughout the volume wood cuts abound, showing the attitudes assumed by different races of people during labor, the collection of which must have cost the author a vast deal of labor. The two positions, one engraved on p. 63, and the other on p. 78, representing customs in our sister State Virginia, fairly entitle the process to the name *labor*.

We hoped to find some allusion made to the conduct of labor among the Carolina Indians, as all the chroniclers accessible to us stopped short of the particulars. Lawson, the quaint traveller among the Indians in the early part of the 18th century, says:

"The savage women of America have a very easy travail with their children. Sometimes they bring twins and are brought to bed by themselves, when took at a disadvantage; not but that they have midwives among them, as well as doctors who make it a profession (for gain) to assist and deliver women, and some of these midwives are very knowing in several medicines that Carolina affords, which certainly expedite and make easy birth. * * * As soon as the child is born, they wash it in cold water at the next stream and then bedaub it." * * *

We recommend this book to our readers in full confidence that they will receive entertainment and instruction of a very rare sort.

TWO HUNDRED AND FIFTY YEARS OF SMALL-POX IN LONDON.

BY WILLIAM A. GUY, M.B., County F.R.C.P., F.R.S., &c.

But few students have the talent and ability to make such research as this paper evinces. The original sources from which the figures are compiled extend as far back as 1629, and extend forward to 1880. The author was fortunate enough to secure the assistance of one eminently qualified to copy and calculate, and so was able to verify and exclude all sources of error. "I must add," he says, "that when I took these figures in hand, I did not know to what conclusion they would lead me, although I felt convinced that, whatever they proved to be, they must have some bearing on the question of the effect, favorable or unfavorable, of inoculation, and efficacy of vaccination as a preventive of small-pox."

The first part of this treatise deals entirely with the statistics of London small-pox mortality, and give, in tabula form, with explanations, the ratio of deaths by small-pox to deaths by all causes. By these tables he establishes the following conclusions :

"1. The first in order of these facts is the entire absence in the present century of epidemics of the intensity represented by the ratio of 100 deaths by small-pox to 1,000 deaths from all causes, though one such epidemic occurred in the year 1800, and several in all periods of the 18th as of the 17th century.

"2. The marked excess of epidemics in the 18th century, when compared with the 17th century, is a fact of importance in its bearing on the question in hand; for it shows that small-pox had not, even up to the close of that century, undergone any considerable abatement. Small-pox, so to speak, had witnessed and survived the extinction of the plague, of which the last case is recorded in 1680, and the omission from the bills of mortality of such fatal maladies as the 'Parish Infection.'

"3. That the small-pox up to the close of the 18th century had undergone no considerable abatement, is further proved by the fact that some of the most severe epidemics took place in the last 20 years of the century (169 in the 1,000 in 1781, 184 in the 1,000 as late as 1796). This last epidemic was the worst on record, 173 in the 1,000 being the only one on the same scale, and this occurred in 1752.

*We are indebted to the author for his courtesy in sending, at our request, the advance sheets of his publication.

"4. The lowest figures, too, are not without instruction, as bearing upon the efficacy of vaccination. The lowest figures recorded during the 17th century is 2.98 per 1,000, in the year following the great plague, whereas the lowest recorded figure in the 18th century, during the prevalence of vaccination, is 0.56, or less than one-fifth of the low figure already accounted for by the incidents attending and following the great plague and the great fire in London.

"5. The lessons thus taught us in regard to the prevalence of small-pox in the eighteenth century are rendered more impressive by the fact that epidemics were more frequent, or, in other words, separated on the average by shorter interval of comparative freedom, in that century than in the 17th. The epidemics of the 18th century occurred once in two years, those of the 17th once in four.

"6. In the 18th century again, and in that alone, were the outbreaks of small-pox of more than one year's duration. Twice they extended to two years, once to four.

"7. If we compare years of equal mortality from all causes in the 17th and 18th centuries, we find deaths by small-pox more numerous on the average in the 18th century than in the 17th, and much less numerous in the 19th than in either of the previous centuries.

"8. If we compare deaths by measles with those by small-pox we find them marked by this difference, that while there was no epidemic of small-pox in the 19th century, there were several epidemics of measles, and that the mortality from measles rose to a higher level in the 19th century than in the 18th century, being the reverse of what happened with small-pox.

"9. So also the whooping cough. It caused a much higher proportion of the total deaths in the 19th than in the 18th century, and therefore strengthens the lessons taught us by the measles."

A diagram of the ratio of deaths by small-pox to 1,000 deaths from all causes is given, making the comparison of 40 years in the 17th, 18th and 19th centuries. We see by this that notwithstanding the rapid freedom of intercourse of the large population of London, and with the greatly increased density of population, that so far the number of deaths from small-pox has not reached the epidemic point, a fact which speaks loudly for the efficacy of vaccination.

The supplement to this paper deals with the small-pox statistics of all England, and shows that deaths are twice as numerous in London as in England and Wales, if London is excluded, a result we could reasonably expect.

It is difficult to bring a statistical paper clearly to the mind's eye at a glance, and we have only undertaken the general summary. We desire here to express our thanks to Dr. Guy, for the great service he has done the profession by his laborious compilation.

THE CHANGE OF LIFE IN HEALTH AND DISEASE: A CLINICAL TREATISE ON THE DISEASES OF THE GANGLIONIC NERVOUS SYSTEM INCIDENTAL TO WOMEN AT THE DECLINE OF LIFE. BY EDWARD JOHN TILT, M.D. P. Blakiston, Son & Co., 1012 William Street, Philadelphia. Pp. 184.

Dr. Tilt has been known to the medical profession as the staunch opponent of the purely surgical school of gynecologists. His work on Uterine Therapeutics has had a very healthful influence in the reactionary movement that has been going on for the past few years, and the preface to this the 4th edition of "The Change of Life" shows that he is still following up the same line of antagonistic argument. Dr. Tilt writes with such candor as to carry the conviction that his arguments are drawn from a full experience.

In his preface he says: "In carefully studying the nervous affections of women at their critical periods of life, it became long ago clear to me that there were important nervous diseases not to be referred either to the brain or the spinal chord, and that must, therefore, be ascribed to the ganglionic division of the nervous system. Treading cautiously on debatable ground, in successive editions, I tried to improve on what I had already done so as to raise the pathology of the ganglionic system out of the slough of wild and silly hypothesis in which it has so long slumbered."

The more the reader familiarizes himself with this volume, the more he will be pleased with the profound insight the author has of the extremely complicated and subtle nervous condition incident to the climacteric.

To elucidate his subject more clearly he has brought together in a table the relative frequency of morbid liabilities at the change of life in 500 women, and throughout the volume he has made use of

the tabular statistical method. He has further elucidated his subject by all the recent knowledge that physiology is able to furnish, but the clinical illustrations by far exceed in value all else. For Dr. Tilt is practical in all things, however much his theories may differ from others, and the fund of readily applicable knowledge here set forth, proclaim in the author a safe teacher.

We have written of this book as though it were not well known to our readers already, and we have thought it a duty to do so, if perchance it might bring a most excellent treatise to the attention of our friends, which once possessing they would not be willing to part with.

The publishers have brought out an edition in paper covers, at the low price of 75 cents, which ought to be an additional inducement to read it. The cheap edition is in no respect inferior to the other edition except as to binding.

MENTAL PATHOLOGY AND THERAPEUTICS. BY W. GRIESINGER, M.D. Translated from the 2d German Edition, by C. LOCKHART ROBINSON, M.D., and JAMES RUTHERFORD, M.D. New York: William Wood & Co. 1882.

The publishers have done well in bringing out a volume upon this subject, and have acted wisely in selecting a volume by a teacher of widely recognized ability. The publications on diseases of the mind in this country have been confined to Rush, and Bucknill & Tuke, and Blandford, if our memory serves us. That diseases of the mind have only been half studied by the American profession, as was exemplified in the late shocking and disgusting trial at the National Capital. If Prof. Griesinger can attract many friends to the study of his interesting specialty in this country as he did in Germany, it will be well for the profession.

This is one of the current volumes of Wood's Library of Standard Medical Authors.

WE call attention to the advertisement of the University of North Carolina in this issue. The authorities of this venerable institution are laboring to place it alongside the best in the land. Parents and guardians are invited to examine its claims.

CURRENT LITERATURE.

SCHEMES OF THE COURSE, STAGES, AND SEQUELÆ OF ACQUIRED SYPHILIS.

*(This Scheme is Arranged on the Supposition that all Antidotal
Treatment is Abstained from.)*

INCUBATION PERIOD.
—Usual duration three to five weeks. Extreme periods, ten days to six weeks.

This stage dates from the exposure to contagion to the first sign of induration of the sore. The condition of the spot inoculated will, during this period, vary according to the degree of purity of the poison used. If syphilitic virus be conveyed free from admixture with pus it is probable that little or no local irritation would result until just before the occurrence of induration, when the spots would become, for the first time, red and itchy. If, however, as is usually the case in ordinary modes of contagion, pus be mixed with virus, then the results of blood-poisoning (soft sore) may be witnessed almost from the first.

DEVELOPMENT PERIOD,
OR STAGE OF PRIMARY
SYMPTOMS.—Usual duration, two to four weeks.

This stage lasts from the first appearance of induration in the sore to the full development of the secondary symptoms—rash, fever, and sore throat. It is really the first part of the exanthem stage. Its usual length to the full development of the exanthem is from two to four weeks. The symptoms present are one or more indurated sores and indurated glands in the groin, which latter are usually free from inflammation.

STAGE OF SECONDARY SYMPTOMS, OR EXANTHEM PERIOD.—All the symptoms in this stage are usually general and symmetrical. The duration varies from a fortnight to eight months or more.

POST EXANTHEM PERIOD STAGE OF LATENCY WITH REMINDERS —The symptoms in this stage are only exceptionally symmetrical. It extends from the cessation of the secondary to the beginning of the tertiary stage.

TERTIARY STAGE—PERIOD OF REMOTE SEQUELÆ.—In this stage the symptoms are very rarely symmetrical. It begins from three to five to ten or even thirty years after secondary stage.

The sore having been indurated for two to four weeks, and the induration usually still persisting, the patient becomes liable to the following phenomena, any of which, or the whole, may be omitted: Slight febrile disturbance, with rise of temperature, headache, and greater or less feeling of discomfort; aching pains in joints and bones, with but little swelling; a roseolous eruption over the trunk, followed in a few days or weeks by an eruption over the trunk, followed in a few days or weeks by an eruption of papules, pimples or blotches, which sometimes ulcerate and become rupial; ulcers in the tonsils, usually with white borders, and sometimes with white superficial sores on the pillars and velum of palate; condylomata in throat, on tongue, or at anus; iritis; retinitis with complication of the vitreous; loss of hair; slight enlargement of lymphatic glands.

The general health is restored, but, in exceptional cases, the patient remains liable to sores in the throat, bald patches or sores on the tongue, palmar psoriasis, &c. Sometimes the secondary skin eruption is never wholly got rid of; but if so, it always becomes irregular. Sometimes there are deep or even phagedænic ulcerations, and sometimes a peculiar form of relapsing punctate retinitis is seen. Chronic sarcocele may occur. The patient may beget healthy children.

Gummuous swelling occur in cellular tissue, periosteum, or muscle, which may ulcerate or spread deeply. They are persistent and show no tendency to spontaneous cure. Diseases of the nervous system (arterial disease or guma) are frequent, and affections of the viscera occur. The tendency to phagedænic inflammation, which may be seen at any stage of syphilis, is also frequent now.

CHRONOLOGICAL STATEMENT OF EVENTS DURING THE FIRST YEAR OF ACQUIRED SYPHILIS.

On the Supposition that no Antidotal Treatment has been Adopted.

<i>First Month.</i>	<p><i>Date of Contagion.</i>—A little pustule or abrasion, lasting a few days, then healing and very likely forgotten.</p> <p>Nothing to be seen, or perhaps a soft sore, secreting pus.</p>
<i>Second Month.</i>	<p>An insignificant pimple, or perhaps nothing whatever to be found.</p> <p>An itching red papule, which begins to indurate. Induration well marked.</p>
<i>Third Month.</i>	<p>A roseolous rash; chancre very hard; bullet bubo in groin. A papular, or scaly, or pustular eruption, sore in tonsils, and other secondary symptoms.</p>
<i>Fourth Month.</i>	<p>Rash and other secondary phenomena continued aggravated</p> <p>Iritis or retinitis may occur.</p>
<i>Fifth Month.</i>	<p>Secondary symptoms continued in some cases, disappearing in others.</p> <p>Chancre and bubo beginning to diminish.</p> <p>Iritis or retinitis may occur.</p>
<i>Sixth Month.</i>	<p>Secondary symptoms continued.</p> <p>Repeated crops of eruption.</p> <p>Chancre probably gone. In many cases patient quite well.</p>
<i>Seventh Month.</i>	<p>Secondary symptoms continued or beginning to fade.</p>
<i>Eighth Month.</i>	<p>Secondary symptoms slowly diminishing, or perhaps recurring in repeated relapses.</p>
<i>Ninth Month.</i>	<p>Patient probably well, but possibly still with rash out; liability in certain cases to psoriasis palmaris, to sores in throat, and to irregular eruptions on skin.</p>
<i>Tenth Month.</i>	<p>Same as preceding month, but probably with diminution of symptoms.</p>
<i>Eleventh Month.</i>	<p>Symptoms diminishing if any have remained.</p>

<i>Twelfth Month.</i>	In a large majority of cases the patient will have been for several months quite well ; in a few he will still be suffering from sore throat, sores, with irregular skin-eruption ; in exceptional cases he may still suffer severely from all the secondary symptoms.
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The state of latency or of reminders now begins, after which at very uncertain date tertiary symptoms may follow.—*Jonathan Hutchinson's Illustrations of Clinical Surgery.*

A CHRONOLOGICAL STATEMENT OF THE COURSE OF SYPHILIS.

*Arranged in One-Year Periods and under the Supposition that
Mercury is not given.*

<i>First Year.</i>	<p>Infection, indurated sore, bullet bubo, and after two months a rash.</p> <p>Roseolous eruption ; grey-edged sores in tonsils ; febrile disturbance ; rheumatoid pains in joints ; papular rash, possibly ulcerating ; iritis ; sores in the month ; condylomata at anus and on tongue ; loss of hair.</p>
<i>Second Year.</i>	<p>Is probably free from the exanthem group of symptoms unless they have been unusually severe. May possibly still show superficial sores on palate and on tongue ; palmar psoriasis, &c.</p>
<i>Third Year.</i>	<p>Probably well. Liable in rare instances to diseases of the choroid (choroiditis disseminata) and to disease of arteries of the brain, resulting in paralysis.</p> <p>Relapses of secondary symptoms, more especially of phagedæna ; sore on skin and in mouth may still occur.</p>
<i>Fourth Year.</i>	<p>Probably well. If a man, and if he have been two years free from symptoms, may be allowed to marry.</p> <p>Risks as in the third year.</p>

<i>Fifth Year.</i>	Probably well. Liability to syphilitic ophthalmitis, palmar psoriasis, scar-leaving acne; necrosis of bones in the nose, &c., is now perhaps, at its greatest.
<i>Sixth Year.</i>	Probably well. Same liability as in fifth year.
<i>Seventh Year.</i>	Probably without relapse. Risk increases of gumous growths in cellular tissue, periosteum, nerves, and meninges.
<i>Eighth Year.</i>	In the large majority of cases the patient has remained well, from the beginning of the second year, and still does so; his liabilities, however, increase to the maladies mentioned in the 7th year.
<i>Ninth Year.</i>	In the large majority of cases the patient has remained well, from the beginning of the second year, and still does so; his liabilities, however, increase to the maladies mentioned in the 7th year. Is still liable, perhaps increasingly so, to the events mentioned in the seventh year.
<i>Tenth Year.</i>	In the large majority of cases the patient has remained well, from the beginning of the second year, and still does so; his liabilities, however, increase to the maladies mentioned in the 7th year. Is still liable, perhaps increasingly so, to the events mentioned in the seventh year.
<i>Eleventh Year.</i>	In the large majority of cases the patient has remained well, from the beginning of the second year, and still does so; his liabilities, however, increase to the maladies mentioned in the 7th year. Is still liable, perhaps increasingly so, to the events mentioned in the seventh year.
<i>Twelfth Year.</i>	Is still liable to suffer, it may be for the first time, from symptoms of the late tertiary class. This liability will last through life, and tertiary symptoms may occur for the first time thirty years after the secondary stage, the interval having been one of absolute latency.

—Jonathan Hutchinson's *Illustrations of Clinical Surgery*.

CLEANLINESS IN GYNECOLOGY.

NC med J. (05.) 10:120-122, #2, Aug 1882

Philosophically considered there are no such things as dirt and filth. They both have their place, and use, and eternal fitness. In this sense they exclude all idea of uncleanness in the practice of the art of gynecology. We have thus cleared the way for the assertion that the practice of gynecology may be made, of all earthly employments, the most filthy. But this exists in the operator, not in the subject, or the spontaneous condition of the subject. Many methods of treatment deliberately followed by physicians are, from their nature, filthy. We know a very good man, if not much of a gynecologist, who always inserts a piece of sponge to retain a displaced uterus in position. The point, however, to which we wish to direct the attention of the reader, is the care of the instruments and hands. The hand of the gynecologist is a peculiar organ. It is the hand of the physician plus a certain spiritual quality that renders it subservient to the highest use to which the sense of touch can be applied; and in its full perfection, like the brain of the poet, is born, not made. It is not as a scientific organ that we wish to speak of it; but as a channel for infection to the owner. This has already become a serious matter. American gynecology can count a small battalion of victims, dead or maimed. Storer, of Boston, lost years of his valuable life; Thomas, of New York, had a narrow escape; Englemann, of St. Louis, has a deformed hand, with his vitality hardly yet recovered from the shock. Armsby, of Albany, carried to the grave a maimed hand, with his health shattered beyond repair; Dean, of Rochester, lost his life; and we might go on through half a page with the enumeration of these accidents. These are all cases of septic infection. And now we look upon it very much as though it was a case of typhus fever, which had occurred in a physician's household, something that ought to be avoided, and a disgrace because it was not. In this age, when all surgery and half of medicine are turning upon the germ theory, the person of a surgeon ought to be protected by scientific forethought and personal hygiene, for the sake of example, if for nothing else. A matter of first importance is the finger-nails and fingers; and this is not the care given to these parts by gentlemen and ladies. Fashion teaches that the skin should be forced back

over the matrix of the nail, so that the small semilunar rim will show at the base of the nail, thus giving it an almond shape. This, on the contrary, the gynecologist ought to allow to grow firmly upon the nail, interposing a firm shield against the entrance of infecting material under the quick, as it is commonly called. "Hang-nails" ought never to be allowed to form, and they may be prevented by keeping the skin soft and firm. Nothing promotes a healthy skin so well as sunlight; the well-browned hand of a man, not a laborer, is seen to be soft, firm, and non-absorbent. The specialist ought not to wear gloves in summer time, except a light cotton glove, for the purpose of keeping his hands clean; or, if he drives himself, under no consideration ought he to wear gloves that will sweat the hands. These are not the rules to form a dainty hand, but the young gynecologist must understand that women go to him professionally, because they are obliged to, not because of the fit of his clothes, or the beauty of his hands.

And this part of our digression brings us back to the pleasant task of reviewing Dr. Brown's book. He tells the student to lubricate his fingers with soap and water before making an examination, and we have noticed the same direction in other hand-books. The exploring finger is lubricated for two purposes; first, to facilitate its introduction, and lastly, to protect the finger from the many forms of infection to which it is exposed. Soap and water may answer the first purpose in a very imperfect manner, but it is useless for the latter. It is quite common to use cosmoline or vasoline for this purpose; but we have noticed that the frequent use of these lubricants causes the skin to flake up and become rough. Oils are faulty, because they are liable to drip upon the clothing or floor, and lard at some seasons is too hard and liable to become rancid. A mixture of about one-third olive oil and two-thirds lard, with two per cent. of carbolic acid or oil of thyme, makes a cheap and reliable lubricant. The conditions to be met are, a material sufficiently firm and consistent as not to rub off the fingers, fluid enough to lubricate and furnished with some unirritating antiseptic. Next, and this for the sake of the patient, comes the care of the instruments. About this Dr. Brown does not say anything, and, as for that matter, neither does Dr. Edis, or Dr. Thomas, or Dr. Emmet, or even Dr. Mundé; but the instruments require a special hygiene

that is never for a moment relaxed. The expensive instruments, and those used in great operations, are, of course, properly taken care of, but the every-day instruments are those which may become dangerous to the patient. Now all this is a very serious matter, especially as we are reviewing this book for the sake of the student and country practitioner, for whom it is written, we feel obliged to tell them that it is a matter of dollars and cents. It has happened to us that a lady has applied for treatment, giving as an excuse for leaving her physician, a very worthy man, and one in whom she had great confidence, that his instruments were so filthy that she dared not trust herself in his hands any longer.

Cleanliness is a very simple matter; there is but one element in it, ceaseless watchfulness. It must be looked after to-day, to-morrow, always. In nothing is this more true than in gynecology, in which a physician may do more harm by his carelessness than he can do good by his treatment. Naturally, he uses the same lubricant for his instruments that he does for his hands, and both as a matter of course and convenience the same means are used to clean both hands and appliances. For this purpose nothing is equal to good yellow soap, kitchen soap, for the reason that it removes only matter and other forms of impurity more quickly than any fancy or toilet soap that we have ever used, the hands are exposed to water for a shorter time, and are thus less liable to crack or chaf. Since this hitherto unwritten chapter of gynecology is now disposed of, we can resume the thread of our review.

REVIEW OF E. VAN DE WARKER.

—*American Journal of the Medical Sciences.*

HIRING A FORCEPS.

About twenty-five years ago, said Prof. Depaul, I was called to see a woman of the town where I arrived, without my instruments. The labor progressed naturally, and there was every indication that the affair would terminate happily, when, all of a sudden eclampsia supervened.

I became oppressed with anxiety, and just then recollected that in ascending the stairs I had seen the sign of an accoucheur on the door. As quickly as possible I wrote upon my visiting card a few words, and asked the husband to take it to my confrère—asking him for the loan of his forceps. It was at night, a disagreeable night, my confrère arose, and responded harshly that he would not lend them, and that this was doing him an outrage; after thinking a moment he said it would be necessary for him to assure himself that the instruments were really necessary. Clothed, therefore, in his simple night shirt, and without his pantaloons he came up to the bed room. This forward intrusion took me by surprise; I asked for the loan of his instruments; he refused, declaring in a loud voice that he would judge for himself the propriety of their employment. I besought him;—I was then a young practitioner;—he refused most peremptorily. (Depaul when I saw him was a well built man five feet nine with florid complexion and fine muscular development, carrying about 160 avoirdupois.) At such conduct I felt the blood rushing to my head, I seized the instrument which he held under his arm, and by the assistance of the husband quickly put him out the door.

The poor woman during this time was comatose. I hurriedly applied the forceps, the child was soon delivered alive and the mother saved.

From the people of the house who were indignant at the conduct of my confrère I borrowed a sheet of paper, and wishing that the lesson which I had given him should be complete, I wrote to him that I returned his forceps with fifty francs for their use.

I must tell that my confrère received and accepted the money, and since then I have not heard of him.—*France Medicale*.—*Obstetric Gazette*.

J. H. T.

HYOSCIAMIN IN COLIC, &c.—Mr. Kenneth W. Millican recommends 1-120th grain of hyosciamin in cases of colic and other spasmodic pains. Mercks amorphous alkaloid is best.

A CASE OF HYDROPHOBIA—CURE.

Mr. Denis Dumont, Surgeon-in-Chief of Hotel Dieu de Caen, reports to the French Academy of Medicine a case of hydrophobia admitted to the hospital in Caen. The man was bitten on the 16th of April, by a stray mad dog, who at the same time bit a woman and child. The wound was cauterized on the next day. The 18th May he heard that the woman was dead. In the night of the 21st to the 22d of May he was taken with extraordinary thirst, with some difficulty of swallowing. The 22d May he was greatly agitated, attempting to drink at many houses, cider, milk, coffee, but without being able to finish the cup or glass, for he was taken with dysphagia and gulped up some mouthfuls of the liquid. In short, he was considered "mad," and properly secured he was taken to the hospital by his neighbors. Examination at the hospital showed that he had a deep bite in his left hand.

The treatment consisted in giving one part of potassium bromide (60 to 120 grains) a day, with syrup of codcine, chloral, and in addition to this a subcutaneous injection of nitrate of pilocarpine, repeated 3 to 4 times a day at first, but afterwards only twice. Under the influence of this treatment, the crisis was little removed. dysphagia diminished, then ceased; agitation disappeared, the appetite returned; and at the end of 15 days the cure was considered complete.

M. Denis-Dumont gives the following to substantiate that the affection was true rabies: (1) The bite of a rabid dog. (2) The ordinary period of incubation after the inoculation of the virus: 36 days. (3) The prodrome: going here and there without a motive. (4) The singular malaise with itching of the arm at the seat of the wound, and which precedes the first onset, not returning afterwards. (5) Intense thirst, a sharp pain in the throat, a spasmodic contraction at every attempt at swallowing. (6) Repulsion for liquids in general, but for some more than others. (7) Convulsions provoked immediately by certain sounds, notably the noise made by the teeth. (8) Recovery almost instantly of consciousness after an attack. (9) The convulsions do not affect one side more than another. (10) The tendency to bite, and the bites made by the sick man himself. (11) The sensation of a weight extremely painful on the chest, with precordial anxiety. (12) Raucous voice, resulting

without doubt from contractions of muscles of the larynx, a kind of barking accompanying the termination of each convulsion. (13) finally, to complete the whole, the curious and characteristic modification of the wound.—*Bulletin Gener. de Thérapeutique*, June 30th.

PREVENTION OF CONCEPTION AMONG THE EARLY INDIANS.—In going over Lawson's History of North Carolina, searching for some account of labor among the Indians, an interest excited in us by Dr. Engelmann's work noticed elsewhere, we came across the following:

"The trading girls,* after they have led that course of life for several years, in which time they scarce have a child (for they have an art to destroy the conception, and she that brings a child in this station is accounted a fool, and her reputation is lessened thereby), at last they grow weary of so many, and betake themselves to a married state," etc.

MARTIN'S ADHESIVE PLASTER IN UMBILICAL HERNIA.—A cheap, expeditious, light and effectual supporter for an umbilical hernia, as suggested by Dr. Roberts in Bryant's Surgery, is made as follows: A plug of bees-wax the size of the hernia, and a broad strip (1½ in.) of Martin's adhesive plaster, are all that is necessary. The hernia is reduced, the wax plug placed in position over the outlet, and the plaster carried around the body and over the plug.

NERVE-STRETCHING—URETER STRETCHING.—The London *Medical Record* quotes from the *Deutsch Med. Wochenschrift*, a letter which gives a "fling" at the nerve-stretchers. The writer speaks of ureter-stretching for granular kidney! He has also stretched the hepatic duct for cirrhosis, and intends to stretch not only the pneumogastric nerves, but also the bronchi for chronic contraction of the lung! He also asks, "Might not general paralysis of the insane be cured by simple extraction of the teeth, and stretching of the respective twigs of the dental nerves? I will try it. A new era is dawning! Here is, indeed, an art, and, while we live, let us stretch!"

*The handsomest girls, selected by chiefs to trade among the whites.

NOTES.

We learn from the *College and Clinical Record* that Dr. John F. Fonlkes, son of Dr. James F. Foulkes, of Oakland, Cal., formerly of Fayetteville, N. C., has been appointed one of the resident physicians to the Jefferson Medical College Hospital.

TRAUMATIC TETANUS TREATED SUCCESSFULLY BY THE SULPHATE OF ESERINE.—We had forgotten to notice this encouraging case contained in the pages of our valuable contemporary, the *New Orleans Medical and Surgical Journal*, March, 1882, until it came again to our notice in the *Bulletin de Thérapeutique*. The case was in the person of a child 11 years of age, three weeks after a wound in the foot. The bromides, chloral, and cannabis were tried without effect. Eserine was administered in doses of 1 milligramme (about 1-100 gr.) from hour to hour. The dose was diminished as the symptoms amended. In a week 3 grains of sulphate of eserine were administered, the child recovering.

THE MANUFACTURE OF OPIUM.—A full page illustration is given in the *Scientific American*, July 29, showing how opium is manipulated and prepared for market. At another place in this same paper a green poppy head with opium exuding from incisions is figured, as well as the knife for incising the poppy head, and the spoon for scraping the drops of opium. These illustrations are taken from the *London Graphic*, and the drawings are by Lt. Col. Sherwood, who writes that upwards of 5,000 tons of poppy juice are yearly gathered in Bengal, yielding a gross revenue of \$32,000,000.

GELSEMIUM IN RHUS POISONING.—In JUNE JOURNAL we noticed that gelsemium was recommended for pruritus. Dr. Edson reports in the *Medical Record*, July 29th, a local application for rhus poisoning:

R. Acid carbolic, ʒ ss.
 Ext. Gelsemii fl, ʒ ij.
 Glycerina, ʒ ss.
 Aquæ, ʒ j.

M.

The pain speedily subsides; the burning, itching, corroding sensation ceases; within 36 hours the disease is effectually killed and the progress to direct recovery is direct and rapid.

BOOKS AND PAMPHLETS RECEIVED.

Fourth Annual Report of the State Board of Health of Kentucky. 1882. Louisville: The Gilbert & Mallory Publishing Company. 1882.

Forty-Sixth Annual Announcement. Medical Department of the University of Louisville. Session of 1882-83. John P. Morton & Co., Printers, Louisville, Ky.

Transactions of the Michigan State Medical Society for the Year 1882. No. II. Vol. VIII. Lansing: W. S. George & Company, Printers and Binders. 1882. Pp. 172.

Handbook of Ophthalmic Practice. By Charles Higgins, M.D., F.R.C.S. Second Edition, Revised. Philadelphia: P. Blakiston, Son & Co., 1012 Walnut Street. 1882.

Treatment of Cancer of the Rectum. A Case of Amputation at Hip-Joint. Recovery. By L. McLane Tiffany, M.D. Professor of Surgery, University of Maryland. Pp. 10.

President's Annual Address before the State Medical Society of West Virginia. Dr. James E. Reeves, President, Wheeling, W. Va. Wheeling: Lewis Baker & Co. Printers. 1882.

The Announcement of the Woman's Medical College of Baltimore, Md. For the Session of 1882-83. Baltimore: Journal Publishing Company print, No. 27 Park Avenue. 1882.

Annual Announcement of the Trustees and Faculty of the Medical College of the State of South Carolina. Session of 1882-83. Charleston, S. C.: Walker, Evans & Cogswell, Printers. 1882.

Transactions of the Medical Society of the State of West Virginia. 1881—14th and 15th Annual Sessions—1882. Instituted April 10, 1867. Wheeling: Lewis Baker & Co., Book and Job Printers. 1882.

Medical College of Virginia, Richmond. Announcement of the Session of 1882-83, and Catalogue of Graduates for the Session of 1881-82. Richmond: Whittet, Shepperson, Printers, Corner 10th and Main Streets. 1882.

Michigan College of Medicine. Detroit, Mich. Announcement for Session of 1882-83. Regular Session Commences on the First Tuesday in September, 1882, and will Continue Six Months. Post and Tribune Job Company, Printers.

Diphtheritic Ulceration of the Air Passages and its Relation to Pulmonary Phthisis. By John N. Mackenzie, M.D., of Baltimore. Reprinted from the Transactions of the Medical and Chirurgical Faculty of the State of Maryland, April, 1882. Pp. 8.

Treatment of Consumption, Indicated by the Discoveries of Koch and Others of its Parasitic Origin. By M. L. James, M.D., Professor of Materia Medica and Therapeutics in the Medical College of Virginia, Richmond. Reprint from the Virginia Medical Monthly, May, 1882.

Journal of the Sixty-Sixth Annual Convention of the Protestant Episcopal Church in the Diocese of North Carolina, Held in Cavalry Church, Tarborough, on the 10th, 11th, 12th, 13th and 14th of May, A. D. 1882. Raleigh, N. C.: Uzzell & Gattling, Steam Printers and Binders. 1882.

A Study of Rupture of the Bladder, with Some Experiments Bearing upon the Closure of the Vesical Wound. By Alex. W. Stein, M.D., of New York. Reprinted from the Annals of Anatomy and Surgery, July and August, 1882. New York: Gustav E. Strechert, 766 Broadway. 1882. Pp. 42.

Address Delivered by the President of the American Institute of Homœopathy, Wm. L. Breyfogle, M.D., At its Thirty-Fifth Annual Session held at Indianapolis, Indiana, June 13 to 17, 1882. Printed by Order of the Institute. Pittsburgh: Printed by Stevenson & Foster, 151 Wood Street. 1882. Pp. 20.

Letters and Facts, not Heretofore Published, Touching the Mental Condition of Charles J. Guiteau since 1865. Submitted to the President of the United States by John W. Guiteau, in the matter of the Application for a Commission de Lunatico Inquirendo. J. K. Lees, Book and Job Printer, 169 and 170 Fulton Street. New York.

Eighth Regular Announcement of the Medical Department of the University of Tennessee, Nashville, Medical College, Nashville, Tenn. Session of 1882-83. Physicians desiring to receive the Announcement regularly will please send their names and addresses to the Dean. Nashville, Tenn.: Robert H. Howell & Co., Stationers and Printers. 1882.

NORTH CAROLINA MEDICAL JOURNAL.

THOMAS F. WOOD, M. D., Editor.

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ORIGINAL COMMUNICATIONS.

THE VARIETIES OF PULMONARY PHTHISIS—DIAGNOSIS OF THE EARLY STAGE OF ALVEOLAR CATARRH AND THE IMPORTANCE OF PROMPT TREATMENT.

A Clinical Lecture delivered at the Hospital of the University of Pennsylvania, February 4th, 1882.

By WILLIAM PEPPER, M.D.,

Professor of Clinical Medicine in the University of Pennsylvania.

Reported by WM. H. MORRISON, M.D., for the NORTH CAROLINA
MEDICAL JOURNAL.

Gentlemen:—You remember that two weeks ago I gave you an account of the symptoms of phthisis and more especially of the symptoms of the most common form, namely, that in which the disease begins as a common cold. I was speaking to you of the peculiarities of such colds as distinguished from mere ordinary catarrh of the nose and upper air passages. You will remember that I said that we were to consider in regard to such cases the fol-

lowing points: In the first place, the constitutional tendencies of the person, which render some liable under depressing influences, such as exposure and the like, to deep-seated and obstinate catarrhal troubles; in the second place, the special condition of the system at the time, brought about by depressing influences, over-exertion, mal-nutrition, etc.; and in the third place, the exciting cause, which may be slight, or which may be so severe that it would in any person, even if there were no constitutional tendencies, produce more than a superficial catarrh. We had arrived at this point when we parted.

You may say that the condition which I have described to you, *i. e.*, a person has what he considers a common cold, gets better, but soon there is another attack, and this is repeated until at last he has a chronic cough, at first dry, and then followed by expectoration. He gradually exhibits a failure in general health. You may say that this is the result of the development of a constitutional condition which has been from the first something entirely different from the effects of an ordinary catarrhal attack; that these cases are from the beginning tuberculous, and that this disease is not the result of a series of catarrhal attacks, but that it is the result of the gradual evolution and development of the special tuberculous formation. In other words, you may view this type of phthisis as being from the first tuberculous.

In reply to the question whether those cases which end in chronic phthisis and death (destructive disease of the lung and death), are or are not tuberculous at the start, I shall ask you to consider the following points :

In the first place, I cannot possibly distinguish by anything in the physical signs, the cases which are going to die from the cases which I see get well. I can find nothing in the general symptoms at the beginning which will distinguish them. I may find great difference in the constitutional tendencies, in the amount of vitality, in the degree of vital resistance, and perhaps in the extent of the trouble; but at the beginning, I can detect no difference in the physical signs, which I may here state: They are a lessened resonance at some part of the lung, more frequently the apex or the root behind, a weak respiratory murmur, prolonged expiration, crackling or moist râles on breathing or coughing and slightly im-

paired expansion at the affected point. In other words, the evidences of slight deposit in the lungs, coming on in a person who has had a hacking cough for several weeks or months, who has been losing flesh, color and strength, who has afternoon fever, disposition to sweat during the night, and who has perhaps had one or two attacks of hæmoptysis. Now if this does not indicate incipient phthisis, what is the nature of incipient phthisis? As I have said, I see such cases get entirely well, remain well for years, continue actively at work, gain their color, lose their cough, marry, beget healthy children, perform all the functions of absolutely healthy people, and in whom I have found no physical signs remaining at the spot where some years before I found the signs which I have just mentioned. I cannot possibly distinguish between these cases and those cases in which, owing to the constitutional strength being weaker, or the right treatment, or the want of means to procure proper treatment, the lesions become more severe and the patient ultimately dies. I therefore ask you to carefully consider this point, and it is a vital one.

In the second place, the causes which give rise to these attacks are in a large number of cases definitely such as produce catarrhal inflammation. Very often in these cases there can be a definite connection traced between the attack and some special exposure. The patient has perhaps been depressed in general health by over-fatigue, loss of rest, irregular meals, or in some other way; then there comes an exposure and cold is taken (ordinarily with cough). If a careful, critical examination was made on that day, there would be found the lesion of alveolar catarrh at some part of the lung. Therefore I say that the causes in many cases are such as give rise to catarrhal disease and this is of course a strong point in favor of the catarrhal nature of many of these cases. Then again during the course of the disease, these patients are very susceptible to the causes which produce catarrhal inflammation. They are unfavorably affected by exposure, fatigue, or other depressing causes, but, on the other hand, they are favorably affected by rest and helpful influence. This is another point in favor of simple catarrhal inflammation.

When I consider these matters, I am unable to come to any other conclusion than that a large proportion of the cases of chronic

phthisis with which we meet are the result of ordinary catarrh of the pulmonary epithelium; but there are cases which are from the very first tuberculous in their character. I presume that no one denies or doubts that. It would, I think, be going as far wrong in the one direction to say that there are no primarily tuberculous cases, as it is in the opposite direction to say that all cases are primarily tuberculous.

The primarily tuberculous cases are, as a rule, characterized by certain peculiarities which I shall mention: They are far more commonly hereditary; they far more commonly arise in early life; they are apt to be more rapid in their course and less influenced by climate, hygiene or therapeutics; they present a higher degree of constitutional disturbance in proportion to the amount of local disease; they are apt to present at the same time deposits and formations of the tubercles in other organs; and lastly, they are invariably fatal in their termination. There is a group of pulmonary phthisis which comes strictly under this head, where it is clear that from the first there has been tuberculous formation in the lungs.

Do we know what gives rise to these formations in the body? In regard to many neoplasms, carcinoma, sarcoma and the like, we cannot tell what causes them. Sometimes the vital action of a part of the body is apparently modified by an injury. Here after awhile slowly forms one of these fatal neoplasms which cannot be gotten rid of. Though you cut it out and burn it out, still it returns and ultimately kills the patient. This looks as if it were more than a local trouble, but we do not know in what these conditions consist, unless it be in more special constitutional disease.

In reference to the formation of tubercles have we any more definite knowledge? We seem to have a clearer knowledge on this point, because it has been clearly established that the presence in the system of certain disintegrating morbid matter poisons the blood and gives rise to tuberculous products in different parts of the economy. It has been found that these matters which thus taint the system are especially the products of inflammation, which has passed into that peculiar condition which we call cheesy degeneration, and that the existence in the body of a focus or centre of slowly disintegrating cheesy lymph, an inflamed gland, or a diseased bone is likely to be followed by the absorption of some special poison and the development in that system of true tuberculosis.

The readiness with which these tubercles will be developed, depends on the virulence of the poison and the susceptibility of the system. There are some systems, as for instance in the rabbit, naturally, and in some men, as the result of an inherited peculiarity, so susceptible that if the most trifling irritation be set up at any point, it will be followed by true tuberculosis. Thus I have repeatedly seen in the rabbit, a bit of glass, a silk ligature, a piece of putrid meat, or a bit of caseous gland put under the skin rapidly produce diffused tuberculosis. I have in the same way, seen the children of certain parents have a trifling swelling of a gland and in a month every organ of the body would be infiltrated by these peculiar neoplasms.

In these cases of primary tubercular phthisis, we must have one of two things: either a strong susceptibility to the poison (and these cases are apt to exhibit not only pulmonary tuberculosis, but also general miliary tuberculosis,) or else we have some local starting point of infection of the system, and this may be from an old bronchitis with enlarged or cheesy bronchial glands, or an old scrofulous enlargement of the gland of the neck. There has been, as a rule, in these cases some such preceding cause. We may not be able to lay our hands on it, but it has existed. The origin of this is not the result of exposure, but is the effect of some deep-seated morbid change in the economy of the patient. In these cases of primarily tubercular phthisis, the history is more progressive, more certainly downward, they are less affected by any favorable influences that we can bring to bear, they are more surely fatal, and the constitutional disturbance is out of proportion to the local disease.

I say then that we have true tubercular phthisis, and secondly, I cannot fail to say that we have phthisis that is primarily catarrhal; but if what I have stated in regard to the tubercular disease is true, you can understand that there is no disease more likely to produce tuberculosis than alveolar catarrh. Here you have the epithelial deposits locked up in a little cell in a distant part of the lung, dry, tenacious and no means by which they may be expelled. They undergo cheesy degeneration and the special poison enters the lymphatics and, provided there is any tendency to tuberculosis, this will be developed, and around the original spot we will have a zone of tuberculous matter. By and by the system is tainted and we have

tubercles appearing in the other lung and in other organs, according to the disposition of the patient. Cases, therefore, that are primarily catarrhal may become tubercular. We have then primarily tubercular phthisis, terminating in death, and primarily catarrhal phthisis, terminating in one of three ways—first, in recovery, second, in chronic advancing disease and slow death, and third, in tuberculous development and more rapid death.

Does this cover all the cases of phthisis that are met with? It does not. You will meet with phthisis coming on in this fashion: A person not in good health, broken down, and who perhaps has an hereditary tendency to weakness of the chest, contracts a croupous pneumonia. We can detect no difference between this case of croupous pneumonia and the cases of croupous pneumonia we see get well. You recognize a croupous pneumonia and in nine days resolution occurs and the patient is convalescent. Another person gets a croupous pneumonia, consolidation occurs, as in the previous case and involves a limited area of the lung, but when the time for resolution comes, it does not resolve, but remains in a state of sub-acute consolidation. The matter thrown out does not seem to be of a strictly fibrinous character. There is in such cases an hereditary tendency to weakness of the lungs, and it may be that in consequence of this weakness the epithelial layers are also involved, and that the epithelial products mixe with the catarrhal products. This of course creates a certain difference. The result is, that after nine days the lung passes into a state of sub-acute or chronic consolidation and now you find the symptoms to be those of a pretty acute phthisis. This means that there is cheesy degeneration of that exudation; that it is not going away as it should do, but is slowly crumbling and breaking down little by little, and worst of all, the walls of the vesicles (the epithelial lining) are inflamed, there are ulcers present and soon there will be little pits and cavities throughout the lung. Hectic fever is kept up, there is progressive emaciation, perhaps there will be a sudden hæmorrhage from the breaking down of the walls of the alveoli and the case runs into a pretty rapid type of phthisis. This then is another form of phthisis; croupous or pneumonic phthisis, coming on in a person whose pulmonary tissues are weak and who has had croupous pneumonia. If in such a person there is a disposition to tuberculosis, he will get

it. This cheesy, disintegrating matter will poison the system and there will be an explosion of tubercles in the affected lung, in the opposite lung and throughout the body. Such cases are, as a rule, more rapid in their course than catarrhal phthisis. They may sometimes last a year, a year and a half or two years, while it is not uncommon for catarrhal phthisis to last ten or twelve years, or even longer.

Lastly, you will come across cases where there appears to be, owing to a peculiar tendency of the system, a special irritability of certain tissues. In these cases you will find that while the epithelial lining does not markedly respond to irritation, the interstitial connective tissue, the fibrous trabecular, the interlobular tissue, passes into a state of irritative hyperplasia. This may be associated with catarrhal or croupous phthisis, but more frequently, I think, with the former. This hyperplasia gives rise to a very great increase in the density of the lung and then, just as in cirrhosis of the liver and kidney, this hypertrophied connective contracts and passes into dense fibrous tissue. While this is going on, the catarrhal matters have been expectorated, leaving little cavities, so that after a time we have a lung that is contracted, hard, which may under the knife creak like a scirrhus and exhibit broad bands of dense white connective tissue, and little cavities with blackened walls from which the softened matter has been expectorated. This form of chronic pulmonary disease may be called chronic interstitial pneumonia, and when it has passed to the state of phthisis, we call it fibroid phthisis.

In this form of phthisis there appears to be very little tendency to secondary poisoning of the system and secondary tuberculous. It may be that the thickening of the interstitial tissue has obstructed the lymph channels, lessening absorption, or it may be that no one gets this kind of fibroid disease who has much tendency to catarrhal trouble with lymphatic complications; but whatever is the reason, these patients rarely get tuberculosis, and last for a long time. I have had under my own observation for fifteen years and still have cases of fibroid phthisis, with contraction of the lung, with cavities and frequent hæmorrhage, and in whom I have never detected any tubercles. I have examined the lungs of those who have had the disease for twenty and twenty-five years and have

found no tubercles in any organ. On the other hand, I have seen an explosion of tubercles in such a patient.

These different groups of cases seem to me to be clearly distinct forms of phthisis though they are often blended as everything in nature is. We may have croupous and catarrhal phthisis mixed, and very often fibroids will present more or less of a catarrhal or croupous character. I suppose that we all agree to limit the term phthisis to describe destructive lung disease. Thus limiting the word, we have the following types of phthisis:

1. Primarily tuberculous phthisis.
2. Primarily catarrhal phthisis, with oftentimes tuberculous sequelæ.
3. Primarily croupous phthisis, with, often, tuberculous sequelæ.
4. Interstitial fibroid phthisis, which rarely produces tuberculousis.

These four types present differences in the peculiarities of the individuals who get them, differences in their course, differences in their response to hygienic, climatic and therapeutic influences and differences in their termination.

To which of these classes do the cases with which we meet in ordinary practice correspond? I think that in nine out of every ten they belong to the primarily catarrhal type. Let us then study this matter carefully for if this form of the disease is so common and there is any chance of doing good, it is one of the most important things that we can consider; and if there are any means of discovering it in its early stages, when it can be helped, it is our duty to do so. When a person contracts a cold, you want to find out whether it is a simple catarrh of the nasal, pharyngeal and laryngeal membranes or a catarrh of the epithelial lining of the lung. There is no duty of the medical man which compares in importance with that of carefully examining every patient with a feverish cold in order to decide whether there is or is not alveolar catarrh. We may make up our mind to do this, but we soon get negligent and let cases slip. Therefore I say that unless we have this burned into our consciences and into our minds as an ever present duty, we shall not diagnose these cases of incipient phthisis at the stage when, in a large majority of cases, the disease is curable, but over-looking this stage, we shall allow the disease to pro-

gress until the constitution has become tainted, the whole system is invaded and the patient's life is sacrificed by inattention or ignorance.

This is a matter of great importance. One-third of the human race dies from phthisis. All the wars, famines and pestilences are trifling, compared to the ravages of this disease. Phthisis is so common, so universal that we come to look on it as death itself and a matter not worth thinking about; it is the lot of man. We surround our friends with kindness, we sit at their bedside, we send them flowers and fruit, but we consider their death inevitable. I protest against this unless it be proved that this disease is invariably fatal. I think that the great mass of clinical observation is against the idea that it is inevitably fatal; against the idea that it is the development of a specific neoplasm which, once started, is going on until it has accomplished its destructive work. Let us then not fail to examine with the greatest care every patient who has irritation of the air passages with fever, and that as far as we can we shall teach the community that when one has a feverish cold he should consult a physician. If there is found any evidence of irritation of the alveolar structures, the case demands rest and suitable remedies. I think that the mortality from phthisis would be diminished to an extent that we cannot conceive of, if this law could be applied for but one decade.

How will you recognize the difference between alveolar catarrh and an ordinary cold? It is largely from this simple thing which I have come to consider as the basis of all clinical work worth doing, a knowledge of physical diagnosis. I consider that no physician who is not capable of making a critical examination of the chest is competent to practice his profession.

In examining a case of this kind you will, of course, find only slight changes. They are, as I have told you, for the most part found at the apices, front and back, but they may exist elsewhere. They may exist at the side, at the root of the lung, over the spinous process of the scapula, or under the clavicle. The apices seem to be more vulnerable than other portions of the lung, but there is no special reason for it. Perhaps there is something in the continuity of tissue. This irritation may begin in the upper part of the air passages and extend downwards. There you find on auscultating,

weakness of the vesicular murmur, because some of the alveoli are blocked up, consequently the inspiratory murmur is weak on the affected side. On account of this same blocking up and the lessened elasticity of the lung, the expiratory murmur is apt to be prolonged and the bronchial element remaining unchanged while the vesicular murmur is weakened, the sound is more blowing. Expiration is then slightly prolonged and blowing. Perhaps at first you hear no râles, but you say to the patient "cough," and you hear a few crackling râles. Comparing the vocal resonance on the two sides, and you find increased vocal resonance on the affected side. You place your hands on the chest and you may find the vocal fremitus slightly increased. You percuss, but often you will find no difference on the two sides. The disease has not advanced far enough; but as the disease goes on there will be slight impairment of resonance or there may be marked impairment of resonance. We have, in addition to the physical signs, in the clinical thermometer, a most valuable aid to diagnosis. You will nearly always find fever in these cases. I want to say here that when a person with an acute disease has a fever, if there is a rise of temperature only to 99.2° or 99.4° , you will save time, avoid risks and do your work more satisfactorily, if you will confine him to his room, to his couch, to his bed. A child with fever should always be in bed. A grown person should be in bed if you can make him go. If he will not go to bed, make him stay in his room. Speak positively and do not allow a person with fever to go about. The temperature must be taken more than once a day. It must be taken in the morning and towards evening. You find nearly always a rise of temperature. This is a deceptive rise. It is up in the afternoon and down in the morning. There is usually a dry hacking cough. It does not give much trouble and is generally referred to the throat. There is usually no pain referred to the chest, or only a little dull pain around the shoulder. There is sometimes a little impairment of appetite, but often no more than occurs in a single coryza.

This disease I consider to be the most common, the most insidious and the most dangerous to which man is liable. The patient says, "It is a common cold." It is *not* a common cold, or rather, I am sorry to say, it is common in that it is frequent; but it is not simple. It is a morbid process attacking the epithelial lining chiefly.

In many, the disease passes into a chronic condition, which, when once established, is apt to pass on to a fatal result. Of course many colds do not have these peculiarities, but it takes only a few minutes to make the examination, but if you do not make the examination an alveolar catarrh may have existed unnoted and the patient be allowed to go around as usual. He gets another cold, feels a little worse, gets better, then another cold, and so matters go on. Perhaps he does not come to see you again for months, and on examining his chest, your blood runs cold as you find the signs of disease that had been coming on for months and which might have been averted.

Acmed J (O.S.) 10:139-150, # 3, Sept 1882
 THE EVOLUTION OF MEDICINE.*

By E. P. HURD, M.D., Newburyport, Mass.

[Continued.]

VESALIUS.

It may truly be said that no progress was accomplished in either medicine or surgery from the time of Galen to the time of Vesalius, who lived in the sixteenth century. Vesalius was a good anatomist, and corrected some of Galen's errors.†

Vesalius dissected a great many human bodies, and enriched anatomy with valuable details, concerning bones, muscles, blood vessels and the viscera.

SERVETUS.

It will be to the immortal honor of Michael Servetus that he demonstrated the lesser or pulmonary circulation, not, however, by

*Read before the Tuesday Night "Club," Newburyport, Mass.

†He denies (for instance) the existence of a hole in the *septum ventriculorum*, affirmed by Galen and subsequent anatomists. Through this foramen Galen supposed that blood passed from the right to the left side of the heart (the pulmonary circulation not being understood).

Vesalius also corrected Galen's error about the *cs cardis*, declaring the bone to be a myth, and he has left an admirable description of the myocardium, and the valves of the heart.

experiment, but by a process of deductive reasoning. Thus in his "*Christianissimi Restitutio*" we find it taught that the blood in the right side of the heart is carried to the lungs by the pulmonary artery, that it is distributed to the lungs by multitudes of fine branches which end in the pulmonary veins, and that these empty into the left auricle of the heart. He says that he arrived at this conclusion by reasoning from the great size of the pulmonary artery, which would not have been so capacious had it been designed simply to carry nutrient blood to the lungs. Vesalius had just proved by experiment that the arteries carry blood and not air, and that the course of arterial circulation is from the heart. This he proved by ligature and section of arteries. That the blood in the large veins flows toward the right heart had been known by the earliest anatomists.

OTHER ANATOMISTS OF THE SIXTEENTH CENTURY.

In this century Fallopius, Fabricius, Eustachius, Varolius, Sanctorius, made important anatomical and physiological discoveries. Fallopius elucidated the mechanism of audition. To Eustachius we owe the first attempt at a description of the minute anatomy of the kidneys, and the discovery of the thoracic duct. Varolius gave a better general description of the brain than had been given by any of his predecessors. Ambrose Paré first advised the ligature of arteries to stop hemorrhage. Sanctorius taught the necessity of mathematical precision in estimating the secretions in disease, determined the normal limits of the perspiratory and urinary excretions, and first introduced the thermometer into medicine.

PARACELSUS.

If Paracelsus, who lived in this century, was the type of charlatans, he taught one useful lesson which gave an impetus to medical progress: that disease does not necessarily depend on excess or deficiency of the humors, but that it is a blight upon the body, subject to its own laws, and to be opposed by specific medication.

PROGRESS OF THERAPEUTICS.

It cannot be said that there had been much advance in therapeutics

down through the middle ages. The cautious critical spirit of Hippocrates and Galen found few imitators. Observation was often incomplete, liking suitable verification. "*Post hoc ergo propter hoc*" was enough to determine the utility of any remedy. The Baconian rule of exclusions and rejections was not followed. If you want proof of this, read any treatise in medicine of the middle ages; the *Rosa Anglica* of John of Gaddesden for instance: A wolf's liver steeped in wine is a cure for cough. Cow's blood taken in vinegar is a remedy for spitting of blood. The lights of a fox in wine*, or bear's gall in water, cures asthma. Burnt deer's horns cures fluxes. For jaundice give wine in which the feet of a yellow hen have been washed. In prhenitis attach a sheep's lights, while warm, to the patient's neck. For diseases of the ear we find recommended wormwood, rue ants, earthworms steeped in vinegar, eel's blood boiled in wine, and similar absurd things. In these ages amulets and charms were worn, philtres and phylacteries prescribed, and saints appealed to as presiding over special diseases.† It was then that bezoars were sought after, the moss from the skulls of dead animals prescribed, and the thigh bone, powdered, of a criminal was held in high repute. It was then that belief in the efficacy of the royal touch was popularly held; a belief that has prevailed down to quite recent times.

Are we to suppose that there was nothing to warrant faith in all these absurd things? Yes, on the principle of "*post hoc ergo propter hoc*" there is doubtless justification for every system of charlatanry and every medical abomination, but modern inductive science headed by Bacon, has swept them all away like so many cobwebs. But the gullibility of the human race is boundless, and there is nothing too filthy to be taken as medicine, and nothing too absurd to be believed. The satirist as well as the scientist and philosopher, has had his share in exploding medical errors, and the

*In accordance with the doctrine of signatures then prevalent; the fox being a long winded animal. Pliny's Natural History is full of such trash as this. Everywhere incomplete observation and unverified statement. Aristotle said that women have more teeth than men, and for ages people were willing to accept Aristotle's dictum, whose falsity might so easily have been proved. Pliny's books are an *omnium gatherum* of crudities; the medical part shows how encumbered was the *Materia Medica* of that eminently uncritical age with abominations of all sorts,

†*E. g.* St. Anthony over erysipelas, which was called St. Anthony's Fire. St. Vitus over chorea, etc.

writings of Molière did much to dispossess the people of his times of faith in the pretensions of a set of men whose sole business, as he tells us, was "*clysterium donare postea sanguinare, ensuite purgare; resanguinare, repurgare, et reclysterisare.*"

HARVEY.

A new era dawned upon medical science when, in the earlier part of the seventeenth century, Harvey discovered the circulation of the blood. Not that this discovery had not been a gradual process of evolution. The idea of a certain circulation had been entertained from the earliest times, but the liver rather than the heart was the centre of circulation, being *par excellence* the blood-making and blood-distributing gland. It was believed, too, that the chyle (absorbed from the alimentary canal) all goes to the liver to be made into blood.

The motor agents of the circulation were all known before Harvey. Vesalius had demonstrated the arterial circulation by tying arteries, observing that the cardiac end throbbed with the beat of the heart, and that the direction of the arterial current was toward the periphery.* Servetus and Columbus had determined the pulmonary circulation. Vesalius had shown that there was no direct communication between the right and left ventricles. The course of the great veins to the right auricle of the heart was known. The contraction and dilatation of the heart in the living subject had been a matter of frequent observation by the great anatomists of the sixteenth century. Surely all the elements of a general description of the circulation were before the world. Nothing was wanting but the creative genius that could comprehend the *ensemble* of facts and give birth to a new idea, an idea which should be fruitful in practical applications.† Harvey was the Darwin of his times. The doctrine of the circulation when demonstrated was found to be in harmony, with all the facts of anatomy and physiology, nay more, to shed new light on them, and to explain difficulties heretofore

*Although Galen had no correct idea of the circulation, yet he had remarked the coincidence between the beating of the heart and the pulse at the wrist, and recognized the value of the pulse as an aid to prognosis.

†E. Fournier "*Application des Sciences à la Médecine*," page 66. I here acknowledge my large indebtedness to this author, in the preparation of this article.

unexplainable. Just so with the general doctrine of evolution as expounded by Darwin. Its entire congruity with the general order of nature, and with the data of all the sciences, and the ready solution which it gives to multitudes of vexed questions, render it to this extent, parallel with the discovery of Harvey. And yet the doctrine of evolution can never be susceptible of proof, as is the doctrine of circulation.

What Harvey lacked was a knowledge of the capillaries to explain the passage of the blood from the arteries to the veins. He supposed the blood to circulate from the arteries to the veins through lacunæ in the tissues. Malpighi, a few years later, by the help of the microscope, recently discovered, completed the discovery of Harvey by that of the capillaries, demonstrating the capillary circulation in the web of the frog's foot. Asellius discovered the lacteals; Van Horne in 1621 the receptaculum chyli and thoracic duct; Wharton (1640) the distribution of the salivary glands; Willis, the ganglia of the sympathetic; (he also named the cranial nerves). Willis first divided the substance of the brain into cortical and medullary. The first, he says, separates the animal spirits from the mass of blood, the second is composed of nerve cords. He first described the circulation in the brain. (Circle of Willis.)

MALPIGHI.

Malpighi about the middle of the 17th century demonstrated the anatomy of the lungs, and the anastomosis of arteries and veins by means of capillaries distributed over the walls of the air cells. He described the cerebrum as an assemblage of glands, (grey substance) terminating in an assemblage of nerves, (white substance); the latter he considered the excretory ducts of the gland. He was the first to describe the papillæ of the tongue, also to see, with his rude microscope, the lobules of the liver, and the glandular bodies of the kidneys which now bear his name—(Malpighian bodies). His letter on the glands is a work of great originality. With his lens he studied the development of the ovum. Malpighi was professor at Bologna, Pisa and Messina.

LEUWENHOECK.

Leuwenhoeck born in 1632, was joint inventor with Malpighi of

microscopical anatomy. His microscope, like that of Malpighi, was only a very powerful lens. He first described the blood corpuscles, milk globules and the spermatozoa, the muscular fibrillæ, the minute structure of nerves and hairs, and the cellular texture of the epidermis.

GLISSON.

Glisson, a Professor of Cambridge, born in 1634, gave the first minute description of the anatomy of the liver. The investing membrane of the portal canals, (Glisson's capsule), perpetuates his name. The same era is rendered illustrious by the names of Swammerdam, Ruysch, De Graaf, Vieussens, Bellini, Bidloo, Brunner, Pacchioni, Cowper, Winslow, Valsalva, Santorini, Morgagni, Havers, Ferrein, Haller, Boerhaave, Monro, Lieberkühn, Senac, Zinn, Meckel, all of whom enriched anatomy, physiology and pathology by valuable discoveries. The most of these names are familiar to students of anatomy and physiology.

PROGRESS IN PHYSIOLOGY.

Before medicine could advance, more correct notions of physiology must prevail. The physiology of the heart and circulation was becoming understood. The discovery of the lacteals and lymphatics, (in this regard we are more especially indebted to Asellius and Ruysch), prepared the way for a new physiology of blood formation, and chemistry was slowly developing its explanation of the transformation of dark blood into scarlet blood on the surface of the air cells. The physiology of the liver had been impossible before the discovery of the circulation. The physiology of digestion was becoming better understood, and on the writings of Brunner, Lieberkühn and Boerhaave we find hints as to the true office in the digestive processes of gastric juice, bile, pancreatic and intestinal juices. The final complete demonstration by Lieberkühn about 1750, of the course of the chyle from its absorption by the lacteals until its entrance into the venous circulation by the way of the thoracic duct, made the purposes and processes of digestion almost matters of scientific knowledge. The physiology of the nervous system continued to be largely a matter of theory and conjecture. The theory of animal spirits and of a nervous fluid prevailed.

Schneider in 1669 described the olfactory nerve, and the method of olfaction. Before his time it was supposed that odors penetrate to the brain through the ethmoidal foramina. Valsalva taught the true mechanism of audition, comparing the expansions of the auditory nerve in the labyrinth to the strings of a lyre. The physiology of vision was fast becoming understood by the researches of Zinn, Demours and others, and Mollinette advanced the opinion (now generally prevalent) that every sensation is a species of touch. Malpighi's excellent description of the glands prepared the way for a better understanding of the physiology of the secretions when organic chemistry should become sufficiently developed. The physiology of muscular movements was well understood in the century following Harvey, and the physiology of generation was outlined by De Graaf. Yet the true doctrine of generation was not known until Baer, in 1836, discovered the ovarian ovule, and the fact of its penetration by the spermatozoon of the male as a necessary preliminary to fecundation.

THOMAS SYDENHAM.

Thomas Sydenham was one of the lights of the period we have just been considering. He called the profession back to the habits of careful observation taught by Hippocrates, taught how to treat fevers by refraining from blood-letting and all depressants, and using a cooling regimen and salines. He instituted a reform in the treatment of smallpox (the scourge of that age), substituting a judicious hygienic regimen for the stimulating treatment then in vogue.

THE FOUR SYSTEMS OF MEDICINE.

This was a transitional epoch. It was characterized by four systems of medicine. These systems were of the nature of the hypotheses, adopted to take the place of exact knowledge. It is evident that as far as medicine is an exact science, there can be no system or sect in medicine, any more than in astronomy or botany. That there have been systems or schools in medicine, shows that something fundamental has been lacking. Following Fournié, I shall treat of the epoch as the period between Harvey and Bichat, and describe the four systems as: 1. The Chemical System ; 2. The Iatro

Mechanical System ; 3. The Spiritualist System ; 4. The System of Vital Properties.*

THE CHEMICAL SYSTEM.

The chemistry of the period consisted of a few elementary truths—too limited to satisfy the human mind,—and was encumbered by erroneous and hypothetical notions which under the names of sacred art, magic, alchemy, doctrines of signatures, etc., had for one principal end the discovery of a panacea for human ills.

Paracelsus propounded a strange theory of medicine in accordance with the crude chemical ideas then prevalent. There are five crises that govern the human body in health and disease ; the *ens astrale*, or influence of the stars, the *ens veneni*, or the poisonous principle of food and drugs, the *ens naturale*, or the force which directs the microcism, the *ens spirituale*, a spiritual principle whose action is seen in sympathy and antipathy, in philtres and charms, the *ens dei*, or Spirit of God which sends on us disease as chastisement. Diseases were also produced by the setting free of sulphur and salt and were to be combated by chemical means. He believed in administering the quintessence of medicaments, and in specific medication, i. e., a remedy for every disease and every symptom. It must be remembered that the pathology of Hippocrates and Galen was humoral—disease being a result of vitiation of the humors—the doctrine of Paracelsus was a vigorous reaction against this ancient way of regarding disease. Von Helmont in the 17th century taught a dogma half spiritual, half chemical. According to this theorist man has a spiritual soul and below this a material soul which he called the archæus, which inhabits the stomach and directs the machinery of the body. Under the orders of the archæus are the ferments which belong to the different organs and which execute the mandates of the archæus. In sickness it is the archæus which is first affected by the morbid cause, whether this be passion, excess or poison. The archæus is irritated, exhausted and neglects the control of the body which languishes and suffers. If the cause persists the archæus becomes enraged, and fever results. This wrath of the archæus vitiates the humors.

*E. Fournié, "*Application des Sciences à la Médecine.*"

The archæus sends the acid ferments of the stomach upon different organs ; these coagulate the blood and determine irritations and inflammation. Catarrhs are produced because the archæus sends into various parts the serum of the blood. The initial chill of fever is the fright of the archæus, and the fever is the expression of his wrath. The therapeutics of Von Helmont consisted in addressing stimulants to the archæus to provoke it to salutary crises. Calomel and antimony were his favorite preparations.

Sylvius was the most scientific representative of the chemical school. He accepted the new doctrine of the circulation, and its applications.

His notions of pathology were crude enough. He explained everything by fermentations, sublimations, precipitations, without taking much account of the organs and forces. His hobby was to act upon the fermentations, to excite them, to moderate them, to neutralize or evacuate them. Many diseases were owing to acridity of the bile ; these were to be corrected by calomel and opium ; many to excess of bile,—here cathartics and especially calomel were indicated. Sylvius also combated acridities by absorbents and alkalies.

The chemical system had many followers, among them were Willis and Vieussens. The leading idea was that diseases are caused by an alteration of the humors, but little account being taken of the solids. Here was an important error. The element of truth at the bottom of this system is this—organic changes, natural and morbid, are chemical modifications of *the carbon compounds*. Vital forces and chemical forces are intimately correlated, and there may be fundamental identity between them. Our remedies, too, are largely chemical and act chemically. The fermentations of which the Iatro-Chemical School had so much to say as causes of disease, have no place in scientific medicine.

THE IATRO MECHANICAL SYSTEM.

I shall briefly glance at some of the tenets of this sect.

Muscles contract because their fibres swell laterally under the influence of nutritive fluids and the animal spirits. Bones are levers, in which the power acts between the weight and the fulcrum. The fluidity and constant motion of the blood are owing to the air

that is intermingled with that fluid. The secretions are the result of blood pressure—the most subtile parts transuding. Pain is an agitation transmitted to the brain, of the fluid contained in the nerves. Fever is a fermentation of the nervous fluid. Boerhaave was the last and most scientific partisan of this system. He revived the old doctrine of *strictum* and *laxum*. Inflammation is the result of arterial tension, and finds its best remedy in blood-letting. In fevers the skin is too tight, so that the sweat cannot escape, hence warm baths, antimonials and other sudorific relaxants are indicated. There is a kind of inflammation which is linked to a state of tension; this is “sthenic” and is to be treated by blood-letting, antimonials, and purgatives. There is another “asthenic” kind which is due to atony; here we must use stimulants and tonics. To Boerhaave we owe the first elucidation of vascular obstructions; he first employed the now familiar terms “embolus,” “thrombosis,” etc.

The Iatro-Mechanicians enriched medicine with valuable truths; the errors which they taught were natural from the standpoint of the times. The history of human kind has shown that error and truth are always commingled, but with advancing knowledge error is outgrown. It is so in both science and religion.

THE IATRO SPIRITUALIST SYSTEM.

Under the name “Spiritualist” are designated all systems in which an entity distinct from the body is made to intervene to explain physiological phenomena. Stahl, born in 1660, may be regarded as the founder of this school. The “anima,” (soul) according to Stahl, is a power that opposes the tendency of the material organized compounds to putrefaction. It is the *Vita* which during its active administration successfully resists the chemical and physical forces that would otherwise pull the organism to pieces. The “anima,” too, is the principle of sentiency and thought. It is the Phusis of Hippocrates, the “*Vis Mediatric* Nature” of Galen, the “Archæus” of Von Helmont, with some modifications. Stahl did not admit a plurality of souls in man. The anima, by negligence or want of knowledge may originate disease; when disease exists the anima is the agency by which health is restored. His ideas in this particular do not differ essentially from those of Von Helmont before described. His therapeutics

consisted in an endeavor to repress the anima when outrageous, and arouse its powers when languid, and to assist the salutary efforts of the anima to bring about restorative and evacuant crises. The system of Stahl was barren of progressive results. It was the old notion of the passivity of matter, which only acts as an outside hypothetical force, nature or "anima" moves it. This is a notion which modern experimental science is demolishing every day. We are learning to emphasize more and more the essential activity of all matter, and to recognize that things possess in themselves the conditions of their activity.*

THE SYSTEM OF VITAL PROPERTIES.

We come now to that phase of philosophic medicine which seems to approach the nearest to scientific verity.

When Glisson, two centuries ago, pronounced the words "irritability of fibre," claiming that irritability is a property inherent in the tissue, and not a principle distinct from the body, he struck the key note of modern physiology. This irritability is called into activity by divers external influences, which Glisson called irritant causes. These make manifest the properties of organic bodies. The *microcosm* is in relations of equilibrium with the *macrocosm*, but it is continually adjusting itself to disturbing causes. The surrounding cosmos is forever acting on the organism, and the organism reacts on the cosmos by movements which Glisson called contractions.

No more pregnant thought was ever presented to the human mind than this, of a moving force, organic and vital, inherent in the organism, viz, irritability, which is aroused to action by excitants from without or within. This conception annihilates all spontaneity of action, and makes living matter simply a mechanism†, whose movements always originate in irritant causes outside of itself. Plants as well as animals manifest irritability and con-

* "Aristotle," by George Henry Lewes, p. 88.

†See (in opposition to Beale and others) the apparent spontaneity of living matter disproved in Claude Bernard, "*Lecçon's sur les phénomènes de la vie.*" (Lecçon 1.) The reciprocal relations between the organism and its environment are of the closest kind.

The frog, deprived of its cerebrum, will remain in a motionless state forever unless irritated. Vulpian's class experiments with other animals show the same.

The will is the *vital irritant* par excellence. I leave to theologians and metaphysicians to agree as to whether volition be itself determined, or whether it is free in the sense of being uncaused.

tractility, and they can scarcely be credited with a moving immaterial principle, which, it is assumed is indivisible; moreover a muscular fibre, separated from the living animal, for a time retains its contractile power in response to an irritation, a clear argument against the unity and individuality of a hypothetical vital principle.

Similar arguments to these were used by Glisson in his controversy with Stahl. Stahl was unwilling to admit the irritability of Glisson, and regards vital activity as inherent in living matter itself.

Haller, in the eighteenth century, developed with rare talent the ideas of Glisson concerning irritability, and maintained that irritability is dependent, not on nerves, but on the primordial constitution of the fibre. He endowed the nerves with a special property which he called sensibility. But sensibility is a subjective conception of the one ultimate fact.

[To be continued.]

DYSTOCIA CAUSED BY TRANSVERSE SEPTUM IN THE UTERUS.—A woman 39 years old, having had a normal labor 19 years previously, became pregnant for the second time. She was taken with expulsive pains of labor attended with hæmorrhage. Examination under chloroform revealed a voluminous neck, largely open mouth, but the uterine cavity completely closed and discharging fetid blood. M. Guéniot carried his finger high up, and found a straight canal leading to the cavity of the uterus. With Dubois' scissors, he incised the septum which divided the cavity of the uterus. He could then introduce two fingers, and feel a placenta covering all the inferior portion of the uterus. He separated it with his fingers. The woman died some hours after.

An autopsy revealed the presence of a putrified fœtus. The transverse septum was composed of a muculo-membranous tissue about 3 centimeters thick (about $1\frac{1}{2}$ inch). [No adequate explanation could be made of the cause of such a growth.—Ed.]—*Bulletin de Thérapeutique*, June 30th, 1882.

SELECTED PAPERS.

IDIOSYNCRASY, AND DIATHESIS IN RELATION TO SURGICAL DISEASES.

Delivered at the Royal College of Surgeons of England.

By JONATHAN HUTCHINSON, F.R.C.S.

The domain of idiosyncrasy in respect to specific fevers is exceedingly important as regards both the physician and the surgeon, and I shall make no attempt to distinguish arbitrarily between their spheres in this matter. That which the surgeon is familiar with in the case of syphilis and those remote and exceptional consequences of measles, scarlatina, and small-pox which come under his care may be used to throw light upon the facts which fall under the observation of the physician in the earlier stages of these latter maladies. There is probably no good reason for believing that the specific animal poisons can vary in their intensity beyond certain narrow limits. Different epidemics of scarlet fever and small pox do unquestionably vary somewhat, but after all the limits of deviation from average intensity observed in different epidemics are as nothing compared with what we witness in different individuals attacked apparently under like circumstances. In the latter we see constantly that it is possible for two individuals infected from the same source and with the same virus, the one to show an eruption consisting only of a few spots almost unattended by fever, the other to develop a confluent or even a hemorrhagic exanthem, which will prove fatal in a few days. Is it possible to give any explanation of these individual differences, excepting by attributing them to individual peculiarities, and when these peculiarities rise to an extreme height, can we name them more conveniently than as idiosyncrasies? I will endeavor to illustrate the subject by facts which have come under my own personal cognizance. The portraits which I produce exhibit a gangrenous and ulcerative eruption which occurs in connection with varicella. They are, in fact, a peculiar form of varicella in which the eruption tends to persist in the individual vesicles ulcerate or become pustular. The evidence upon which I venture this unqualified assertion is, I think, conclusive, for this

eruption has been observed repeatedly with the history that in the first instance it was supposed to be chicken-pox, and whilst chicken-pox was in the family and in a few yet more definite cases, the surgeon who identified the gangrenous case was the witness at the same time of varicelli in its ordinary mild form in the patient's brothers and sisters. The facts have fallen under the observation not of myself alone, but of many others, and they receive important incidental corroboration from several narratives published long ago, and without full perception of the interpretation of the facts. My present object is to cite them simply in proof of the possible influence of idiosyncrasy in modifying the course of an exanthem. The case to which the portrait which I next show belongs was that of an infant to all appearance in perfect health, who had several brothers and sisters all healthy, who had all been vaccinated at the usual time with the usual results. In this child, however, vaccination was followed on the seventh day by a general eruption on the skin, which on the tenth day looked like ordinary small-pox, which subsequently became gangrenous, and caused death at the end of a fortnight. The state of the child's skin at the time of its death is well shown in the portraits. It will be seen to be covered by spots and patches of gangrene, the sphacelus involving the whole thickness of the skin. There is no form of variola known which in the least resembles this condition, and none will suggest, I think, that diagnosis. On the other hand, there is a well-known eruption, usually slight and mild, but occasionally very definite, which occurs after vaccination, to which term *vaccinia exanthem* is appropriate. My suggestion is that this eruption bears the same relation to the ordinary mild *vaccinia* rash which gangrenous *varicella* does to the common type of chicken-pox, and that its exceptional severity is due to individual idiosyncrasy.

I show next another portrait from a similar case which was observed by Mr. William Stokes, in Dublin, to whose kindness I am indebted for the portrait. The general facts were similar to those in my own case, with the difference that the eruption occurred a day or two earlier after vaccination, that the patches of gangrene were more irregular, and more superficial, and that the child survived. I do not know that any other examples of gangrenous *vaccinia* have as yet been published, but I have no doubt that such

will in the future be observed. I have related some extreme instances illustrating the influence of idiosyncrasy in causing severity of exanthems which are usually very mild. Probably there are quite striking examples of the converse, instances in which the specific animal poisons pass through the system and produce little or no obvious effect. It may be that these are much more common, and that they go far to explain some of the great apparent irregularities in the course of the exanthemata. We often meet with individuals who tell us that they have never had scarlet fever or measles for instance, although they were exposed in childhood at the same time that their brothers and sisters suffered; and we often see these diseases go through a family and leave one or more children apparently untouched. Still oftener will it happen that one or several individuals under such circumstances will show only a very slight febrile ailment, without any of the more characteristic symptoms of the disease, whilst others suffer severely. It has happened to me recently to witness a family epidemic of scarlatina which remarkably illustrates what I want to say. In mentioning its details, let it not be supposed that I think that it illustrates anything unusual; on the contrary, I believe that similar occurrences fall very frequently within the experience of those engaged in general practice. My facts are briefly these: A child was affected with sore throat and feverishness, but had no rash whatever, and beyond a slight fur no change in the condition of the tongue. She was well in a day or two, and nothing subsequently occurred to her. Four days later another sickened with exactly similar symptoms, but more marked, and in her the usual rash of scarlatina soon appeared; a little boy went through the same course of events; both of these observed precisely the same period as regards the progress of the disease; both had nose bleeding on the same day, followed by rheumatism beginning in the same joints, the wrists, and both had great swelling of the cervical lymphatic glands. Subsequently an older sister, who was believed to have had it some years ago, went through a rather sharp attack. Thus, I take it, there can be no doubt that the disease in this instance was scarlet fever; but to prevent any question on that score I may add that one of the patients was seen by Dr. Gee. It is to what I have next to state that the chief interest attaches. The child who was first ill, and

who had but a day's sore throat, no tongue affection, no rash, no peeling, was subsequently most fully exposed to the risk of infection, and did not take it, conclusively proving, I think, that the trivial illness she experienced was the fully-developed malady so far as her idiosyncrasy permitted it to show itself. But I have other facts yet more curious. Almost the whole family, and it was a large one, suffered one after the other, during the two or three weeks that the disease was in the house, from sore throats and a day or two of feverishness. Several of them had never had scarlet fever before, and as to some others, it was doubtful. In all the cervical lymphatic swelled more or less, but in no instance was there the slightest peeling or any sort of sequela. I have to add that, when the first child had sore throat, I was told that the family of a cottager living at a short distance from the house had just been suffering from similar throats. This cottager was the milkman, and apart from this fact, there had been personal communications between the two houses. On inquiring at this, I found that the father, mother, and two grown-up daughters had all in succession had sore throats, attended with a day or two of rather sharp febrile illness, but in no single instance had any rash been observed, nor had any peeling of the skin followed. They were not known to have had scarlet fever on any former occasion, and laughed at the suggestion that what they now had was it. It may be that after all it was not, but the dates fitted well with the possibility that the first of the children affected had got the contagion from this source. The inferences which I wish to draw from such narratives as this is that it is possible for the individual peculiarity which may be hereditary and may affect many individuals in the same family—to so far modify and minify the course of an exanthematic fever as to make its recognition quite impossible; that we ought to seek for the explanation of these remarkable differences, amounting in many instances to almost total suppression, not in difference in the degree of epidemic virulence, nor in the hygienic surroundings, nor in anything which can properly be called the state of health of the patient, but in that in which we can give no other explanation than that it must rank as an idiosyncrasy. It is needless to point out what a pitfall of fallacy is here opened for the feet of the investigator. How easily may we find ourselves attributing to influences

which were wholly inoperative results which must simply be put aside as those which we ought to expect under the laws of idiosyncrasy. I will leave for the present the examination of those laws as they influence the course of another specific fever. This is the time at which I ought properly to mention the facts which in the case of the specific fever known as syphilis illustrates its extreme inequality of incidence in different persons. I must not, however, enter into any details, and I leave them aside the more willingly because the facts to which I refer are matters of universal knowledge. We all know how differently chancrels behave in different persons; how they may become phagedænic or sloughing without our being able to assign any cause for the difference. We know, also, that the syphilitic rash in many cases is wholly omitted, together with the rest of the train of secondary phenomena. We know also how, when secondary symptoms do appear, how infinitely variable they may be in form and in severity. A roseola, a lichen, a psoriasis, a rupia, an eruption indistinguishable from variola—such are a few of the forms which we frequently see. Impressed by these startling differences, good observers have tried to make out that there are different kinds of virus, but all the facts are in opposition to such hypotheses. I must content myself by suggesting that they are due to inherent differences in the individuals who receive the virus, and must pass on to other topics. Let me next remark that, not only is the sphere of individual peculiarity almost unbounded in its power of modifying the force of the primary outbreak of an exanthem, but that it exercises a great influence in determining who shall and who shall not suffer from complications and sequelæ. Upon this latter term I am alluding rather to what may be called accidental sequelæ; the inflammation of various organs and parts which occur exceptionally and at some little distance of time, and which often bring the patient under the care of the surgeon. The peeling of the skin, and possibly also the nephritic desquamation which follows scarlatina, and are sometimes classed as sequelæ, are really parts of the primary disease. As I think my narrative has conclusively shown peeling of the skin is not a sequel of scarlet fever *per se*, but of one of the symptoms of scarlet fever, namely, of dermatitis, to which it is the necessary consequence. Inflammations of the ears, and of the bones or joints,

stand, however, in a different category, and so does the ophthalmia tarsi, which often follows measles, and the pruriginous affections of the skin which are not infrequent after both vaccinia and varicella. When these events occur probably not by any means as necessary parts of the disease, but rather as revealing idiosyncrasies in the individual. Inflammation of the ear and allied affections may possibly in some instances reveal diathesis rather than idiosyncrasy. That is, it may be that they occur because the patient is distinctly scrofulous, or the subject of some other form of recognized ill-health. Even as regards them, however, I much doubt whether this is always true, and respecting the affections of the skin to which I have referred, I am sure that they often occur to those who are in good health, and that they are proof of idiosyncrasy only. Variability in the degree of irritability of the skin is common and proceeds to great lengths. Flea-bites, woollen clothing, nettle-stings, the like, produce on different persons extremely different results. Urticaria is a form of dermatitis of which probably but few persons are susceptible, and in those in whom it occurs it demonstrates or reveals this susceptibility and nothing more. The patient who gets the nettle-rash whenever he eats lobster may yet be able to digest lobster with as little inconvenience as other people. It is his skin, or perhaps the nerves of his skin in which the susceptibility alone lies. In this suggestion rests, so far as I can see, the real explanation of the maladies which have been grouped together under the name of prurigo. There is no one disease to which the name is applicable. What we see is the power of various sources of local irritation in provoking pruriginous dermatitis in those in whom idiosyncratic susceptibility exists. Now it is the presence of pediculi; in others cases of fleas; in yet others the presence of an exanthem, such as vericella, which is the starting-point; whilst in all, the morbid condition, once initiated, is kept up by the patient's unwise efforts to relieve it, and by the mere fact of its having got possession. I repeat, there is no such disease as prurigo—a malady which has been described by a high authority as if it were self-existent, alike causeless and cureless, but there are plenty of persons born with that peculiar irritability of skin in which a variety of causes may evoke the symptoms to which the name has been given.

We may probably with much confidence place diphtheria and

erysipelas side by side as diseases, or rather type forms of the inflammatory processes which obey parallel laws. Probably no human being is exempt from the liability to them, but at the same time it seems certain that the degree of proneness varies very much in different individuals, is persistent through life, prevails in families and is a matter of inheritance. Thus, then, we attest for both the existence not infrequently of a sort of constitutional predisposition which the terms diathesis, or even in some instances, that of idiosyncrasy, is applicable. Both may become contagious, and of both exposure to direct contagion is probably by far the most efficient mode of production. Many persons will take them by contagion in whom other causes would have proved abortive. But both are capable of spontaneous origin and, to speak more correctly, may be produced by exposure to certain non-specific influences, such as the ordinary causes of catarrh injuries, sewer gas, and some others. It is most important that all who value accurate classifications should deny both as regards erysipelas and diphtheria their right to rank with those fevers which are due to specific animal poisons. With these as it seems to me, neither of them has any real affinities. In both, I repeat, it is a personal and inherited peculiarity, giving proclivity when certain exciting causes are brought to bear to peculiar forms of inflammatory action with which we have to deal. In both it spreads locally, and the contagion of continuity of tissue and with both constitutional symptoms result which are in some ratio with the extent and severity of the local action. Neither of them in the least protects the individual from future attacks; indeed, although in each single attacks are common enough, yet it is generally acknowledged that those who have suffered once are more prone than others to suffer again, and in both there are not infrequent instances of proclivity lasting through many years. In erysipelas the essential feature is spreading inflammation of lymphatic spaces in the skin producing gout, œdema, and usually great dilatation and enlargement of blood vessels. In diphtheria we have a spreading inflammation of a mucous membrane attended by œdema, great dilatation of blood-vessels, and the formation, in greater or less quantities, of a fibrinous pellicle.

Although I mention skin as the seat of the one and mucous membrane of the other, let it be distinctly understood that these are

only the most usual sites; both may attack cellular tissue or wounds, and each may occasionally affect the usual territory of the other. There may be some doubt as to how, when these inflammations affect repeatedly the same individual, the fact should be explained. It may be that one attack leaves a really increased susceptibility to a second, or it may be that the first simply revealed a proclivity which had existed all along, and of which the later ones are merely the manifestations without addition. Probably both explanations are true. It is, I presume, not necessary that I should produce before this audience any citation of evidence in proof that a personal liability to erysipelas and diphtheria may be witnessed. All are familiar with them.

It is probable that there are some slightly marked affinities with the diseases just named and such maladies as carbuncles, and boils, and acne. Respecting all these, we have the same questions to ask, how far are they dependent upon constitutional causes? We may take it as certain that in all there is a double causation, and our task is to assign in each instance the relative share of each. In the first place, we may say that the liability to acne, to boils, to carbuncles, is often a family matter, and is seen to occur with unusual frequency in relatives. It is often also a personal matter, as is proved by its persistence or recurrence at various periods of life. Further, the association of these maladies with more or less temporary disturbances of health, with diabetic dyspepsia, with constipation and defective tone, is a matter of constant observation. Whoever has reflected, however, as to the real value of carbuncular inflammation will, I think, see reason to believe that its peculiarities are to a large extent local ones. Respecting both boils and carbuncles, it is the fact that most efficient measures of treatment are those which appeal to the local condition. This is true of all the different measures in repute, however dissimilar at first sight it may appear. Some have for their object the protection of the inflamed area from further irritation, as when we cover up a boil or commencing carbuncle with leather plaster, others, the subduing of the inflammation by means of cold and the like, as when we use an ice-bladder or a strong spirit and lotion. Nor do those who adopt a time-honored practice of an early, free incision depart from this principle, for their object is still the mitigation of local inflamma-

tion by the relief of tension, and by permitting the escape of contaminating matter. From acne, impetigo, and ecthyma to boils is in many cases a matter of degree, and that there is little or no real distinction between a large boil and a small carbuncle, all will, I think admit. The age of the patient, and his special dietetic condition at the time, and place, and the influence of different modes of local treatment, are the conditions which determine the final result. If a boil occur in an elderly person, on the nape of the neck, where it is likely to be irritated by the shirt-collar, and especially if, instead of being systematically protected from the first, it be further bullied by premature squeezing and the like, it is very likely to pass on into a carbuncle. I claim the strong testimony which has been borne by Sir James Paget and others to the efficiency of simply protective measures in preventing the development of small carbuncles, and obviating the supposed necessity of incision, as proof that local spreading is, in the main, due to local causes, and has no necessary connection with the general health. In other words, it is not a thing which is inevitable. On the other hand, we know of no internal remedy which possesses any marked power in arresting carbuncular inflammation. If now we ask, in what does the peculiarity of carbuncular inflammation consist? in what does a carbuncle differ from a boil? I should be inclined to reply that it is solely in this tendency to spread. The spreading is effected by contagion of continuity, and it has certain marked resemblance to what we observe in erysipelas. A carbuncle might almost be defined to be an erysipelatous boil with the proviso that the expression is not intended to imply identity of inflammatory type, but only close similarity. Throughout its whole course, and however extensive it may be, carbuncle in combination with its erysipelatous method of spreading retains the characteristics of the furuncular process. Its secretions and its core, or slough, are exactly like those of a boil, excepting that they are much more abundant. In a general way there appears to be a natural tendency independent of treatment to the arrest of the process, and this is generally observed in erysipelas. In other words, erysipelatous inflammation is more intensely infective than is carbuncular. I must, however, qualify even the admission of difference by reminding you that carbuncular inflammation has such an injurious influence on health and in

all cases in which its spread continues in spite of treatment that the patient quickly dies. Thus many cases occur in which no proof is given of tendency to arrest as there is in phlegmonous erysipelas.

I fear I am wandering rather far from the subject of diathesis, but my argument, if I have succeeded in making it clear, is this: that there exists a certain state of tissues and constitutions different in each instance, which gives proclivity to erysipelas, boils, and carbuncle, and that while the importance, the almost paramount importance in many instance of local influences in exciting and aggravating the diathesis in the background must not be forgotten. Further I have argued that carbuncle is the result of a sort of combination of the erysipelatous and furuncular types of inflammation. I feel sure that these views as to pathology will be found to fit well with therapeutics. Tetanus is a malady so rare, that if we admit its possible spontaneous production without regard to previously existing proclivity, we must not expect to find many instances in proof that the latter sometimes exist. Yet there are such, and possibly if looked for more than we might suppose. The influence of race is proved by the great liability both of infants and adults among the negroes, and also of certain animals. I have met with a few cases in English practice of what appeared to imply that there might be an inherited proclivity to tetanus. A man who looked quite well walked into my room as an out-patient at the Metropolitan Free Hospital and gave me his own diagnosis by declaring "I am going to have lockjaw." I found that he recently had a slight wound on one hand, and that he was beginning to feel some stiffness of his jaws. His symptoms, however, were exceedingly slight, and his anxiety was caused by the fact that his father had died of tetanus. The poor fellow's forebodings were rapidly realized, and he died within a week.

Here, however, for the present, gentlemen, I must take leave of the subject of idiosyncrasy. I have endeavored to claim for this form of individual peculiarities a much wider sphere of influence than is usually accorded to them. It is necessary, I am well aware, that one should exercise some scepticism in accepting doctrines of the kind I have brought before you. To fall back on the suggestion of an idiosyncrasy is so easy that it may easily become the

resort of intellectual sloth. We must not, however, be deterred by this consideration from the acceptance of such doctrines if they are true. That they are so within certain limits, I cannot doubt, and the problem before us is to find those limits. If we begin to recognize, or if we forget the all-obedient influences of idiosyncrasy, we shall not only waste much time in processes of clinical research, but we shall be in constant danger of coming to wrong conclusions by declining to accept evidence as to causes which is really sound, and of adopting false principles in reference to treatment. In every example of curious and unexpected form of disease, our minds should, I think, first ask the question, "How much of this may possibly be due to the individual peculiarities of its subject?" We are often on a wrong tack if we seek to make external influences explain the whole.


Let me add in conclusion, and it seems to me of great practical moment, that the individual peculiarities of all patients should be made intelligently acquainted with them. There are few of us without our idiosyncrasies and their variety is innumerable. If it should become the custom to record some sort of life history in permanent form from the birth or infancy onwards, all the peculiarities in an individual as the result of medical observation, not only would much be done in the way of preventing subsequent errors in treatment, but valuable contribution would be made as to a knowledge of the real nature of many diseases. It is not only as regards the prescription of many drugs that a knowledge of our patient's peculiarities become important to us in practice, but the advice we have to give in respect to places of residence, mode of life, and of general management are often of far more importance than the medicine prescribed, and its wisdom or the reverse may depend on the knowledge or the ignorance of the individual peculiarities, and those peculiarities frequently do not display themselves in any of the symptoms, and can be recognized and revealed only by a correctly kept life history.—*The Medical Press.*—*Cincinnati Lancet and Clinic.*

EDIITORIAL.

NORTH CAROLINA MEDICAL JOURNAL.

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THOMAS F. WOOD, M.D., Wilmington, N. C., Editor.

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INFANTILE MALARIAL ECLAMPSIA.

Marsh miasm is not a generally recognized cause of infantile eclampsia, and its influence as a causative agent has found its way into but few systematic works on diseases of children. Still in the malarial districts of the South there is no more fatal disease among children than malarial eclampsia, if not well understood. Our remarks on this subject will serve as a warning, at least, to those physicians not familiar with malarial diseases, and merely as a reminder to the older practitioners in this section.

Ordinarily, a physician summoned to a case of infantile eclampsia will run over in his mind the causes which are generally acknowledged potent, and he is willing to assure the friends of his patient that convulsions are more alarming than dangerous, and that as soon as free purgation or vomiting is brought about, or the gums lanced, no further danger need be apprehended. Some of us know to our sorrow, that such a hopeful prognosis is not so sure during certain seasons of the year, and that a convulsion has a certain

dangerous significance, calling for the most prompt and unremitting attention.

For this latitude (34° , $2'$) in the months of September and October, neglect of infantile convulsions costs many lives. There is nothing externally to distinguish eclampsia produced by malarial, from that by other causes. The time of day of the attack has certain significance, generally corresponding to the fastigium of malarial fever,—from 11 A. M. to 5 P. M. Examination of an infant during the attack, even when the temperature is high, will show no preternatural surface heat. The skin will many times be bedewed with moisture, and there will be marked pallor of the skin, or if the patient be a negro, the lips, gums and eyes will give the equivalent sign. Now, if the temperature be taken, during or just after a convulsion, it will frequently register 103.5° to 105° F. The height of the fever in this case, clearly points to its malarial origin, and signifies further, that is probably not the first day of fever. It is highly probable, almost certain, indeed, that had an examination for temperature been made two days preceding the outbreak, a decided fever would have been discovered.

We would not go so far as to say that every case of infantile convulsions occurring in the months of September and October are surely of malarial origin, but we are sure of this, that no case should be passed by without carefully getting the temperature. It is decidedly unsafe to neglect this important matter.

Fever having been ascertained, the treatment is tolerably sure. No time should be lost, but the bowel should be washed out with tepid water, and repeated small doses of quinine given, until from 10 to 20 grains are administered, to children of from two to four years of age. It may be necessary to give minute doses (1-24th to 1-30th gr.) of opium, occasionally with the quinine, to ensure quietness of the stomach. It would also be advisable to use mustard baths, and to administer chloroform by inhalation, as in other convulsions; but the value of quinine as the chief reliance must not for a moment be lost sight of.

These facts have in part long been known and acted upon, but it is only of late years that the habitual use of the thermometer has enabled us to detect, beyond doubt, the fatal malarial element in autumnal infantile eclampsia.

REVIEWS AND BOOK NOTICES.

TRANSACTIONS OF THE MEDICAL ASSOCIATION OF THE STATE OF ALABAMA. THE REPORT OF THE STATE BOARD OF HEALTH. Mobile, April 11th-14th. Montgomery, Ala. : Barrett & Brown 1882. Pp. 492.

The volume speaks highly for the thorough organization of the Alabama profession. But such an organization would defeat its object, were it not for the zeal and learning of the membership. Here we have a medical society which besides excellent work of a literary and professional character, performs the functions of a State Board of Health, and has direct control over the examination of candidates for license to practice medicine. We have examined this volume with unusual interest, naturally comparing the work of the Alabama Society with that of our own State.

In Alabama there is a Medical Examining Board for each county. The State Board of Examiners meets also at the same time and place as the State Medical Society, at which time applicants for license are examined. The State Board perform also the duty of reviewing the written examination papers sent up to them by the county boards. Judging by the character of the reviews, the State Board is determined to do its duty, maintaining a high standard for their diploma.

We read with interest the correspondence of the State Board of Examiners with the various Medical Colleges, noting the characters of the replies received. The Board sent a circular letter to every medical college setting forth their aims and intentions about their duties, saying in substance that the graduates should be fairly examined and the law of the State fully carried out. Replies were made by six medical colleges only one of which, the University of Michigan, is an institution of national reputation. They uniformly replied applauding the action of the State of Alabama in the premises. These letters, though, may only be the individual opinions of the dean of the college, for it is very certain that college faculties in general, do not unanimously endorse the reëxamination of the students who have been awarded their diploma. However, good colleges need not mind, and it makes little difference whether the others mind it or not.

There is another feature of the Alabama law which is new, and that is the requirement of notification by an intending medical student, to the Board of Medical Examiners, the permission being given only to those possessing certain qualifications.

We trust that our Alabama friends may have in perpetual succession, generations of vigorous and cultivated physicians, as able as these by whom the task of medical organization is now so ably managed.

The papers presented are as follows: "A Short Study of Some of the Phenomena of Mind," the Annual Oration, by Peter Bryce, M.D.; "Rabies in Alabama," by James Meyers Godfrey, M.D.; "Recent Progress in Surgery," by James F. Henstis, M.D.; "Miscellaneous Medical Papers, with a Note on *Adiantum Capillius-Veneris*," by Benjamin H. Riggs, M.D., and many other papers of considerable length, all giving abundant evidence, that while the Society is a working organization, guarding with jealousy the moral tone of its members, that literary work has been cultivated with commendable assiduity and skill.

LACERATIONS OF THE FEMALE PERINEUM, AND VESICO-VAGINAL * FISTULE. Their History and Treatment by D. HAYES AGNEW, M.D. With 75 Illustrations. P. Blakiston Son & Co., 1012 Walnut St. 1882. Paper covers price 75 cents.

American surgeons have long excelled in originality of method, and skill in operations, upon the female sexual organs. As a teacher of surgery Prof. Agnew is clear, concise and practical, and what he writes is always acceptable. This work on special surgery has been very carefully digested and arranged, beginning with an anatomical description of the female perineum, a historical account of lacerated perineum, the method of operation with illustrative cases; and closing the second half of the volume with a description of vesico-vaginal fistulæ, its history, operation, and illustrative cases. We know of no volume of recent date, to compare with this, in the interesting history of the progressive development of the operations described, without we except Sir Henry Thompson's recent work, (issued by the same publishers in a similar manner) on Surgery of the Urethra. That Dr. Agnew should produce an excellent handbook on special surgery of the female genitals is not surprising, but

that a publisher could produce such a well-printed volume for seventy-five cents is remarkable.

In these days of notorious book-piracy, it is a pleasure to know that the firm producing this and similar volumes in an inexpensive form, make proper remuneration to the authors of them. Messrs. Lindsay & Blakiston have maintained this reputation for many years, and we trust that their business will not be damaged by their less liberal opponents. They deserve a liberal support from the medical profession.

WHAT TO DO IN CASES OF POISONING. By WM. MURRELL, M.D.,
* M.R.C.P. Second Edition. Detroit: G. S. Davis. 1882.

This is a vest-pocket guide to practice in cases of poisoning. It contains all of the latest information as to poisons and their antidotes. It describes the necessary outfit for such practice.

Dr. Murrell falls into an error when he says that American oil of turpentine is useless, as compared with the French oil, as an antidote for phosphorous. As we understand it, phosphorous unites with the oil of turpentine, forming a harmless milky compound. This the Wilmington oil of turpentine does, in the fresh state, as we have lately had demonstrated. Probably, old, and partially oxidized oil, would not answer, and it may be that Dr. Murrell has only tried such a specimen.

The simple syphon stomach tube, and other practical things suggested make it far more valuable than many more pretentious books on the same subject.

A TREATISE ON THE PHYSIOLOGICAL ACTION OF THE SULPHATE OF QUININE. By OTIS FREDERICK MANSON, M.D. Philadelphia: J. B. Lippincott & Co. 1882. Pp. 164.

This volume is a reproduction in a substantial form of the admirable essay presented by Prof. Manson, to the Medical Society of Virginia, and noticed by us at some length in the JOURNAL of April, 1882. It deserves and doubtless will get, a very extensive circulation, as being the most thorough treatise on the action of quinine in our language.

CURRENT LITERATURE.

A NEW CARDIAC MEDICINE—EXPERIMENTAL RESEARCHES ON LILY OF THE VALLEY (*Convallaria Majalis*).

We give the following general resumé and conclusions, made by Prof. Germain Séé, from his study of the action of *Convallaria majalis*:

1. *Convallaria majalis*, or lily of the valley, is a most important cardiac remedy.

2. In the form of the aqueous extract of the whole plant, administered in doses of 15 to 20 grains a day, convallaria produces on the heart, and the vessels of respiration, constantly favorable effects; to wit: modification of the beats of the heart, often with reëstablishment of the normal rythm; and on the other hand augmentation of the power of the heart, also arterial pressure, with regulation of abnormal arterial beats; finally, the inspiratory force, and the sensations of *besoin de respirer* are less imperious,—less painful.

3. The most powerful, constant, and useful effect, is the diuretic action, so important to obtain in cardiac dropsy.

4. The therapeutic indications are as follows: (*a*) In palpitation which results from exhaustion of the vagi nerves or paresic palpitation, which are much the most frequent. (*b*) In simple arrhythmia, with or without hypertrophy, with or without lesions of the orifices or valves of the heart. (*c*) In mitral constriction, especially when it is accompanied with a defect of compensation of the contractile force of the left auricle and the right ventricle; the contractile force is visibly augmented, as shown by sphygmographic tracing. (*d*) In insufficiency of the mitral valve, it possesses especial advantages, when there is stasis of blood in the lungs, and consequent dyspnœa under the influence of passive congestion, with or without nervous trouble of the respiration. (*e*) In Corrigan's disease, the favorable effects are shown principally by the disappearance of the peripheral arterial beats, and by the facility with which respiration is established. When the left ventricle no longer shows compensatory hypertrophy, the convallaria is found to be best indicated, it gives

energy to the heart, which tends to become enfeebled and dilated. (f) In dilatations of the heart, with or without hypertrophy, with or without fatty degeneration, with or without sclerosis of the muscular tissue, the indications for convallaria are clear. (g) Finally, in all the affections of the heart, such as cause dropsical infiltration, and a strong tendency to general dropsy, convallaria has a prompt and sure influence. (h) In lesions with dyspnœa the effect is less marked.

5. Contradictions are nil, for the medicine is applicable to all diseases of the heart. It is likewise without any harmful influences on the cerebro-spinal system, also on the digestive organs.

6. For these various reasons, convallaria is superior to digitalis, which we are sometimes obliged to abandon, because of vomiting, loss of appetite, digestive troubles, cerebral excitement, capillary dilatation which are so often produced after a more or less prolonged administration.

Digitalis ends at length by exhausting the heart, by increasing its beats, by enfeebling them, in a word by bringing about effects diametrically opposite to those we desire.

7. In order to combat cardiac dyspnœa, it is inferior to morphine, and still more so to iodine; but morphine suppresses the urine; the preparations of iodine maintain intact that superiority, which I will call respiratory.

Thus has the combination of convallaria with iodide of potassium, in the treatment of cardiac asthma, constitutes a most useful compound.

8. Finally, in heart disease with dropsy, convallaria surpasses all other treatment, without necessitating the association of other diuretics.

Dr. E. P. Hurd, of Newburyport, Mass. (*Med. Record*, 9th Sept.) administered an extract of convallaria in two cases, and is satisfied with the results so far. One was a case of Corrigan's disease. After taking the medicine only three days he was entirely free from his usual faint and giddy turns, and angina pectoris, and was able to work with increased comfort. Dr. Hurd also learns that for years eclectic physicians in this country have been prescribing this remedy. We could find no reference to it in King's Dispensary or Lloyd's Supplement.

ERYSIPELAS ANALOGOUS TO ELEPHANTIASIS.

Erysipelas has in elephantiasis a congener of great interest. The distinction between the solid edema which results from recurrent attacks of erysipelas and the more characteristic form of elephantiasis is only a matter of degree, and it is well known as regards all elephantiasis that repeated attacks of rigors with erysipelatous swelling are constant features of the disease. One is tempted, indeed, to go the whole length, and declare that elephantiasis is, after all, only an example of persisting exceeding chronic erysipelatous inflammation with its resulting hypertrophic changes. Elephantiasis may vary infinitely in degree, but not at all so far as I know it in kind. It always begins in edema, and from this it slowly progresses to hypertrophy. The hypertrophy may implicate the corium and cellular tissue only ("smooth elephantiasis"), or it may involve also the papille, and produce the tubercular form. Usually these two forms occur together in different parts of the same limb. The solid edema, which is its first stage, may begin from a variety of causes. It may be induced by an attack of *bona fide* erysipelas, by an injury, by any slight local inflammation, a chancre, an excoriation between the toes, etc. Almost invariably its persistence is favored by the mechanical disabilities of the part as regards the return of the venous blood and the contents of the lymphatics. We meet with elephantiasis chiefly in the legs, the labia, clitoris, penis, and scrotum, parts which, if once they become swollen, are dependent. The non-symmetry which prevails in a large majority of cases denotes the influence which purely local inflammation has in locating the disease. In some cases it affects equally both the legs, and in these it may be taken for granted that the constitutional predisposing cause is strong. Such cases prove the fact of hereditary diathesis. They are scarcely ever met with in England, but only in those climates where the disease is endemic, and in races or tribes who are peculiarly liable to it.

When the elephantoid process has once well set in I believe it is never wholly cured, and no better instance could be produced of the pathological advantages of possession. The worse the disease is the worse it is likely to become. It is emphatically a self-aggra-

vating malady. The mere fact of its existence tends necessarily to its spread. Slowly but surely it undermines the health of its subject, impoverishing his blood, and mainly by the recurring attacks of erysipelas, which attend it, enfeebling his tone. Constitutional treatment does but little, and local measures are the only chance of benefit.—*Jonathan Hutchinson, F.R.C.S., in Med. Press and Circular.*—*Cincinnati Lancet and Clinic.*

NAPELLINE.

We have already given an account of this rediscovered alkaloid—for, as we pointed out, it had been isolated and its chemical properties defined, long before Duquesnel had resurrected it from the grave of forgotten facts. Under the stimulus of new investigations, its properties are becoming better known, and it excites the interest alike of the pharmacologist and the practical physician.

Napelline differs from aconitine—its associated alkaloid—in these respects: it is not crystallizable; it is very soluble, and it possesses properties in some degree peculiar to itself. It has a distinct soporific action, compared by Laborde to that of narceine, and it acts aconitine in lessening the sensibility of the sensory nerves. It may be administered, therefore, in a great many painful affections, in which insomnia is a pronounced feature. Dumontpallier, who has employed napelline in his hospital practice, finds it effective in the treatment of facial, sciatic, and intercostal neuralgia.

As napelline is very soluble and diffusible, it is suitable for hypodermatic injection. Laborde has administered it in the dose of three centigrammes—about one-sixth of a grain. It is, therefore, much less powerful than aconitine.

Should future trials confirm those above referred to, napelline will occupy an important position as a remedy.—*Med. News.*

[Advanced Proof from Transactions South Carolina Medical Association—Meeting at Spartanburgh, S. C., 1882.]

DURATION OF THE PERIOD OF INCUBATION OF INFECTIOUS DISEASES.

By F. PEYRE PORCHER, M.D., Charleston, S. C.

I have engaged my son, Dr. W. Peyre Porcher, to collect the information contained in this paper, and to prepare the accompanying table of the duration of the incubation period of some of the most important of the eruptive and infectious diseases, from some of the best authors, in order to supply a pressing want. For example: If a person exposed to small-pox sails from Liverpool, when he arrives at Castle Garden, after a voyage of ten days, the medical officer there, who gives him a permit to proceed to his destination at Cincinnati, is quite aware that he may still break out with this disease after his arrival there, because he *knows* that the incubation period of *small-pox* may be as much as twenty days—and this period will not elapse in the time required by the infected immigrant to pass from Liverpool to his destination in the West. The conclusion would be quite different with respect to a disease like yellow fever, the incubation period of which is never more than from two to fifteen days as the extreme limit. There are, in other words, three questions answered by such tables, viz.: 1. What is the latest period after exposure to infection at which the disorder will show itself? 2. How soon may such a person be pronounced safe against an attack? 3. How long may the person who has had an attack be a possible source of infection?

We have thought it advisable, also, to follow the table with some extracts on several of the infectious diseases, collected at some labor from authors of distinction, where a more minute account is furnished. Private and Hospital Physicians, Boards of Health, and others, can thus see at a glance what it is so often desirable to know regarding the infectious nature of the several diseases, their periods of incubation, and also when they can no longer become sources of contagion or infection to those exposed to them. It is, of course, quite impossible, with regard to some of the diseases, to state these limits with precision.

Duration of the Period of Incubation of Some Infectious Diseases.

<i>Authors.</i>	<i>Small-Pox.</i>	<i>Diphtheria.</i>	<i>Scarlet Fever.</i>	<i>Measles.</i>	<i>Whooping Cough.</i>	<i>Mumps.</i>	<i>Yellow Fever.</i>
Roberts	12 days.	From 2 to 4 days, or from 30h to 8 days.	From 3 to 5 days.	From 6 to 14 days.	From 2 to 4 days.	From 14 to 22 days.	
Bristowe	From 10 to 16 days. "Dr. Marston says invariably 12 days."	From a few hours to 8 days.	From 3 to 5 days. Ranges between 1 & 6 or 8 days, but never longer.		14 days.	About 14 days.	Ranges from 2 to 15 days. Most common limit is 6 to 10 days.
Ellis	12 days.	From 3 to 4 days.	From 4 to 40 days. Average 4 to 6 days.	From 12 to 14 days.			
Smith, J. Lewis.	From 12 to 14 days.	From 2 or 3 to 8 or 9 days.	Usually from 3 to 8 days, or from 24h to 3 or 4 ws. Quoted from Trousseau.			About 12 days.	
Day.	14 days. Cases of 5, 11 and 13 days are quoted by him.		From 3 to 5 or 8 days.	From 10 to 14 days.			
Reynolds' System of Medicine	Precise time is after 13 times 24 hours, or 12 full days and part of 2 others. Never longer than 14 days.	From 3 to 8 days.	From 7 days to 3 weeks.				

Duration of the Period of Incubation of Some Infectious Diseases.

Authors.	Small-Pox.	Diphtheria.	Scarlet Fever.	Measles.	Whooping Cough.	Mumps.	Yellow Fever.
Trousseau.....	From 8 to 11 days.		From 3 to 5 or 8 days; even to 30. "Impossible to determine the duration."				
Bouchut (Bird's Translation) ... Niemyer	From 6 to 14 days. From 12 to 13 days--quoted by him from Barendsprung & Ziemssen.		From 8 to 9 days.	From 10 to 14 days.	From 5 to 6 days.		
Copeland	From 6 to 20 or 21 days. May be as short as 5 ds.		From 1 to 25 days.	From 7 or 8 to 25 days.	From 5 to 9 days.		From 2 to 12 days.
Bartholow— Medical News, March 4, 1882. Mackenzie		From 2 to 3 days; limit 15.	*				

Copeland also gives the incubation period of the following diseases as follows: *Enteritis*, from 3 to 14 days; *Pericerebral Fever*, from 1 to 5 days; *Erysipelas*, from 1 to 14 days; *Dissection Wounds*, from a few hours to 3 days, rarely after 4 days; *Gonorrhoea*, from 2 or 3 to 10 or 12 days; *Syphilis*, from 6 or 7 days to 2 or 3 weeks; *Rabies*, from 21 to 63 days, or from 4 to 12 months to 2 years as the extreme limit.

After consulting several authors, I can find no incubation period assigned to *Dengue*. In my own experience, it is certainly less than two days—possibly less than 24 hours.

To the above Table we append the following extracts from writers of authority, concerning the necessary precautions to be taken, and the duration of the period before free intercourse can be allowed to patients suffering from the following diseases. But first we introduce a discussion by Dr. Richardson, and others, on the Period of Incubation of Infectious Diseases:

“ In scarlet fever, in the same way, is the depression of temperature and malaise, the fever, or the rash, to be considered as indicating the termination of the incubative stage? To these questions Dr. Richardson replies that he excludes the local manifestations, as they may appear before the constitutional symptoms; and the rash, as it sometimes does not appear at all; but he accepts sudden rigors and depressions as the most-certain signs of the invasion of the disease, and calculates the duration of incubation up to the date of their occurrence. It is true, that in hydrophobia and syphilis, there is probably no rigor. He divided all infectious diseases into five groups, according to their period of incubation. The first, quick, in which this period usually lasts from one to four days, such as cholera, malignant pustule, and septic poisoning from dissection wounds; second, short, in which it lasts from two to six days, such as farcy, scarlet fever, diphtheria, dengue, whooping-cough, and croup; third, medium, in which the incubation period lasts five to eight days, as in relapsing fever and varicella; fourth, long, ten to fifteen days, as small-pox, rotheln (German measles), typhus and typhoid; fifth, longest, viz. : syphilis and hydrophobia. The first group is fairly steady as regards the incubative period, and he had some doubt if epidemic catarrh should not be included amongst infectious diseases. As to the second group, there are exceptions, for instance, scarlet fever, sometimes has an incubative period of a few hours only, and he gave an instance of an attack from which he had suffered; and the third and fourth groups he also believed are fairly steady, although even amongst them there are occasional exceptions, pointing out, amongst other things, that the period of incubation is shorter after inoculation than after exposure to infection. He thought that in some cases of short period of incubation, there might have been some abrasion of the mucous membrane of the air passages. He also believed that there is increased susceptibility to infectious diseases when great waste of

tissue is going on. The length of convalescence is usually greater in those diseases which have a short period of incubation, such as scarlet fever, and that therefore greater care must be used in isolating these cases, than in those having long periods of incubation. He concluded by recommending the ordinary practical rules for preventing the spread of these diseases to be enforced for checking their spread.

“ Dr. Squire said that his experience proved that, ordinarily, the period of infectiousness, after the disease had concluded its acute stage, varied inversely according to the period of incubations; a short incubative period being followed by long convalescence. That he had never met with a case of measles in which the incubative period was less than seven or more than ten days; that of German measles being longer, and mumps usually as long as twenty-one days. He believed that these diseases never originate, except from the bodies of the sick.

“ Dr. Tripe said that he had treated several cases in which the incubative stage of scarlet fever was only eighteen hours; of small-pox as short as nine or ten days, and as long as fourteen or fifteen. He believed that small-pox is infectious before the rash appears, and that therefore, persons who had been exposed to infection, should be isolated as soon as, if not before, the constitutional symptoms appear.

“ Mr. Murphy said that more facts are required on the subject, and especially that they should be collected by country members, as the sources of error are not so numerous in country places.

“ Mr. Wynter Blyth had met with two forms of rabies. He thought that short incubative periods were followed by severe forms of the disease.

“ Dr. Dixon objected to the term incubation, and preferred the preliminary period being calculated up to the appearance of the rash. Dr. Willoughby mentioned a case of vaccination which did not develop vesicles for three months.

“ Dr. Dudfield considered that the many sources of infection in large cities rendered the data very often doubtful. He objected to varicella being used as a diminutive of small-pox, as they are different diseases.

“ Dr. Bristowe thought that the incubative period included only

the time which elapsed up to the appearance of symptoms, that the period subsequent to, and before the rash broke out, is that of invasion. He did not think that a rigor occurred in every case, and it could not therefore be taken as the symptom marking the end of incubation. As regards the incubative period, it is often longer in whooping-cough than that mentioned by Dr. Richardson, being about fourteen days. He had not found that of rotheln to be so long, as in one marked case it was only five days. He objected to the use of diminutives."

SCARLET FEVER.

Dr. Wm. Budd, (see "Day on Diseases of Children," second edition, p. 136,) strongly advises that the patient's body and scalp be annointed with olive oil as soon as the skin begins to peel, (and this is sometimes as early as the fourth day), and continued until the patient is well enough to take a warm bath, when the whole body and head should be well scrubbed with disinfecting soap, (Calvert's or McDougall's.) The baths are to be repeated every other day, until four have been taken, when, if the patient has new clothes, and there is no throat or kidney complication, he may return without risk to his family in a week or ten days. After this, the sick room should be well fumigated, and the bedding or curtains exposed to a temperature of 240° or 250°, which is said to effectually destroy the power of the specific poison. The principles advocated by Dr. Budd apply to all contagious fevers, as small-pox, measles, typhus, etc., and the method employed has proved so successful in his hands, that during a period of twenty years he had not known the disease to spread beyond the sick room.

Hanging rags, "steeped in disinfectant solutions, about the room is not to be commended, but a sheet moistened with a strong solution of chloralum, carbolic acid, or Condy's fluid, and suspended outside of the door of the room, is very necessary to complete the isolation of the patient."

Care must be taken, in using different disinfectants, that they do not counteract each other. For example, carbolic acid decomposes Condy's fluid.*

*Hand Book of Hygiene, by Dr. Wilson. Second Edition. 1873. Page 304.

PREVENTION OF SCARLET FEVER.

Dr. David Page, at the London Congress said as follows (volume xxxix, 44) :

“ A knowledge of the incubation period is essential in disposing for the time of a person who, having been exposed to changes of infection, may have contracted the disorder. In this case an appreciation of the maximum period of latency is required. The literature of the subject is vague and untrustworthy.”

The author's observations coincide with those of the late Dr. Murchison, and may be summed up :

1st. The common duration of the incubation period of scarlet fever is from 24 to 48 hours.

2d. The period is occasionally longer, lasting from 3 to 5 days.

3d. In rare instances, it is practically absent, the symptoms following quickly upon exposure to infection.

Based upon these conclusions, the author requires that a person who has been exposed to infection should, before being pronounced safe from its probable consequences, be kept under surveillance for a week, and only then, after a change of clothes and baths, be set at liberty. Of even greater importance than this is the action which ought to be taken in regard to the patient himself. This action is rendered difficult by reasoning of diversity and inconsistency of what are commonly looked for as the diagnostic features of scarlet fever. An estimate of the real value of desquamation of the cuticle as a trustworthy guide in preventive measures must be based upon a knowledge of irregularity of process in relation to time, quantity of eruption, or intensity of attack, error of regarding infective process at an end before cessation of desquamation, and for some considerable interval afterwards, importance of pathology of scarlet fever as regards the nature of the eruption and the tendency to albuminuria, as a guide to preventive action and treatment.

The author's experience points to the necessity for isolation of the scarlatinal patient for a period of not less than eight weeks, and he would state the rule of nature to be isolation for this period as a minimum, and in case of protracted desquamation, or of relapse, until entire cessation of the process, and for a fortnight afterwards.

Mr. John Simon (*Lancet*, vol. 1, '81 ; p. 146) says : " It is believed that the dispersion of contagious dust, from a patient's skin is impeded by keeping his entire body (limbs, head and face) constantly anointed with oil, or other grease ; and some practitioners also believe this treatment to be of advantage to the patient himself. On complete convalescence, the final disinfection of his surface should be effected by warm baths, with abundant soap, taken three or four successive days, until no trace of the roughness of the skin remains. Not until this has been done, nor without the greatest care that the clothes are clean and free from infection, should the patient, however slight may have been the attack, be allowed to associate with persons susceptible to scarlatina."

J. L. Smith, New York Academy Medicine, *Gaillard's Journal*, May, 1882:

" Experiments had proven that the contagion was carried by nearly or quite all of the secretions, by the blood, the cuticle, etc. While the contagion was very persistent in clothing, etc., and might thus be carried long distances, it did not contaminate the air any great distance around the patient, differing in this respect from measles and pertussis, for instance. It was therefore easy to isolate a case in a house, so that the disease should not spread, provided no communication took place between the attendants on the sick and others. At the New York Foundling Asylum, a small room, adjoining, but separated from, a large ward in which many children were, had for years been used for patients with scarlet fever, yet the contagion had never spread to those in the adjoining ward. It was needless to say that no communication was allowed between persons in the different rooms.

" The incubative period varied. As a rule it might be stated as six or seven days ; certainly it was sometimes much shorter, but probably never longer.

" The author did not remember to have seen a case of scarlet fever in an infant under four months of age."

DIPHTHERIA—PREVENTION OF—PAPER BY G. W. LANSING.

" All persons recovering from diphtheria should be considered dangerous therefrom. Such a person should not be permitted to associate with others, or to attend any school, church, or any public

assembly, until the throat, or any sores which may have been on the lips or nose, are healed ; nor until, in the judgment of a careful and intelligent health officer, he can do so without endangering others ; nor until his clothing have been thoroughly disinfected, and this without regard to the time which has elapsed since recovery, if the time is less than one year. Nor should a person from premises in which there is, or has been, a case of diphtheria attend any school, Sunday school, church, or public assembly, or be permitted by the health authorities, or by the school board, to do so until after disinfection of such premises, and of the clothing worn by such person, if it shall have been exposed to the contagion of the disease."

MEASLES.

M. Bouchut, on his " Diseases of Children," p. 586, says of :

" *The Stage of Incubation.*—Several physicians have already endeavored to determine the probable duration of the incubation of measles: It would be from six to sixteen days according to Bate-man's, from eight to twenty-one days according to Gregory ; from ten to sixteen days according to Willan.

" *The Infective Period of Measles.*—A short article has recently appeared in the *Sanitary Journal* on this subject, in which are especially pointed out (1) that judging from the epidemic of measles in the Fiji islands, and from numerous isolated instances, the incubative period ordinarily lasts from ten to twelve days, but that in some cases it may only be eight, while in others it may be fourteen days ; and (2) that the disease may be communicated from one child to another during the catarrhal stage and before the rash appears.

" There is nothing particular new in either of these statements, but they are often forgotten by many practitioners. Dr. W. Squire, in his valuable monograph on the period of infection in epidemic diseases, published in 1874, pointed out not only that measles, but the rash appears. Dr. Squire divides the incubative stage into the latent, during which no symptom of disease are observable, which in measles ordinarily lasts for about four days, and the period of invasion, when feverishness, loss of appetite, cough, coryza, etc., prevail. During this latter part of the disease there is plenty of evidence that it is infectious. A good instance of this is related in

the *Sanitary Journal*. A child at school feeling ill was removed to the house of a friend, where there were several children. After remaining there about a week she was taken home, and on the following day the eruption of measles appeared. The previous symptoms were loss of appetite and those of an ordinary cold. Twelve days after her removal, four of the children, on the same day, were laid up with measles. In a second case, a child visited, for a few hours only, another child who had a cough, and two days afterwards the rash of measles. She returned home, and ten days afterwards visited some friends for the day. On the twelfth day after her visit to the first mentioned child she had the rash of measles. Some of her friends whom she visited on the tenth day after exposure, and two days before the appearance of the rash, also took the disease. Dr. Squire gives the following instance: A boy visited a girl on February 5th, and occupied the same bed room with her from the 9th to the 12th, returned home on the 13th, and had the rash on the 16th and 17th of February. The little girl had cough on the 20th, and the rash of measles on the 24th. Many other similar cases are published.

“ Another important point in connection with the infection of measles is not referred to by the writer in the *Sanitary Journal*, viz.: the time during which infection may last after the appearance of the rash. Dr. Squire states that it is probably limited to three weeks from the time of the eruption, but that infection is evidently as intense in the first week of convalescence as at any part of the illness, is considerable in the second, and may persist in the third week. It is, therefore, almost certain that measles may be communicated by a sick child for a period of at least a month from the time of his receiving the infection of the disease, and that, therefore, it is not safe to allow him during that time to mix with healthy children.”—*British Medical Journal*.

We must add one more extract to enrich this collection, and we first quote what is said of it in a recent editorial of the *Medical News*, of Philadelphia, for August 12, 1882, as follows :

THE DURATION OF THE POSSIBILITY OF CONTAGION.

“ Information is frequently sought as to how long the risk of contagion in a given case lasts, and the inquiry is commonly made of

the doctor : When may a child who is just recovering from one of the contagious diseases, mingle with the family, and go to school without risk of communicating the disease to his companions ? The question has generally been considered to be one more easily asked than definitely answered, and the usual sources of information on such subjects are strangely silent on this. The French Government, through the Minister of Public Instruction, has done a good work in formally submitting the question to the Académie de Médecine, and we publish the answer the Académie has just formulated. This reply is worthy of the widest publicity, and should be placed in the possession of the head of every school and family. If the measures of personal hygiene there defined are faithfully carried out, as they probably will be in France by governmental enactment, our schools and public conveyances would soon cease to be the principal nurseries in which contagious diseases are propagated, and their spread will be in great degree controlled, if the diseases themselves are not largely stamped out."

THE DURATION OF ISOLATION OF SUBJECTS OF CONTAGIOUS DISEASES.

"M. Hillairet, in the name of a Commission composed of MM. H. Roger, Bergeron, and Hillairet, read before the Académie de Médecine a report in reply to the inquiry addressed to the Academy by the Minister of Public Instruction, as to how long a pupil affected with a contagious disease should be kept away from school.

"The report considered the following diseases : varicella, variola, scarlatina, rubcola, mumps, and diphtheria, and the conclusions are as follows :

"Varicella, whose progress is often irregular, may require ten or twelve days for the fall of the crusts: The isolation should be about twenty-five days.

"Variola has a prodromic period of three to four days; four or five days of eruption ; three or four days of suppuration ; desiccation requires three days ; fall of the crusts, six days. Then comes a period of furraceous desquamation without definite limit. Isolation should not be less than forty days.

"In scarlatina the period of invasion occupies from six to forty-eight hours, or exceptionally three days ; the eruption is complete in from five to eight days ; desquamation commences on the four-

teenth or fifteenth, and lasts from fifteen to twenty-six days. Isolation should last forty days.

“Rubeola has a prodromic period of three to four days; exceptionally, from six to eight, or even twelve days; the eruption is completed in twelve or forty-eight hours, then it declines for twenty-four hours; desquamation lasts from eight to fifteen days. Isolation for forty days will be sufficient.

“Mumps, as a rule has a duration in ordinary cases of six days; convalescence lasts from six to seven days. If any complication of metastasis occurs, it lasts usually about nine days. Isolation for twenty-five days is sufficient.

“The duration of diphtheria is very variable, but isolation should be maintained for at least forty days.

“The Commission consequently proposes the adoption of the following measures :

“1. Pupils affected with chicken-pox, small-pox, scarlet fever, measles, mumps, or diphtheria, should be strictly isolated from their comrades.

“2. For small-pox, scarlet fever, measles, and diphtheria, isolation should not be shorter than forty days; for chicken-pox and mumps, twenty-five days is enough.

“3. Isolation should last until after the patient has been bathed.

“4. The clothing worn by the patient at the time he was taken sick, should be subjected to a temperature of 90° C. [194° Fahr.], and to sulphur vapor and then well scoured.

“5. The bedding, curtains, and furniture of the sick room should be thoroughly disinfected, washed, and aired.

“6. The pupil of a school, after recovery from one of the above contagious diseases, should not be readmitted to the school unless furnished with the certificate of a physician that the above precautions have been observed.

“These conclusions were adopted by the Academy.—*Gaz. Méd. de Paris*, July 22, 1822.”

BACK NUMBERS OF THE NORTH CAROLINA MEDICAL JOURNAL WANTED.—The following JOURNALS are wanted for which 25 cents will be paid : July and September, 1880 ; January, 1881.

PROGRESS OF MEDICINE AND SURGERY.

The Action of Bromide of Sodium, Compared with the Action of the Bromides of Potassium and Ammonium.—MM. Jules Chéron and Raoul Fauques physicians to Saint Lazare, have experimented with the action of these bromides, and here are their conclusions :

These salts act, by virtue of the bromine, as moderators of the reflex centres.

The bromide of potassium in addition to its sedative action on the nervous centres, has a depressing influence over the muscular system : it is a nervo-muscular agent. The bromide of sodium acts as the bromide of potassium on the nervous centres, but does not affect the muscular system : it is simply a reflex modifier, and an eliminator ; lastly, the bromide of ammonium is a reflex modifier like the preceding, and by virtue of the ammonium it is a diffusible excitant ; it is at the same time a reflex modifier, and peripheral excitant.

Consequently, when we wish to act on the reflex power, and on the muscular system it is to the bromide of potassium we must give the preference.

If, on the contrary, it is desirable to act on the reflex centres, the bromide of sodium is indicated.

Finally, if we want to spare the muscular system, and wish to affect the nervous centres and bring about a slower circulation, a lower pressure, the bromide of ammonium will give the result.—*Bulletin de Thérapeutique.*

AN IMPORTANT DUTY.—An examination of our subscription books shows that many of our friends are still in arrears for the JOURNAL. In making their fall collections, we trust that the important duty of remitting amounts due to the JOURNAL will receive their early attention.

We have, much to our confusion, made mistakes in our accounts this year, but our friends will be willing to overlook, as we are desirous to correct them.

THE MUSHROOM SEASON.

Acmed. J. (O.S.) 10:184-185, p. 3 Sept 1887.

The season for mushrooms have arrived, but if the truth were generally known, the *Morning Post* thinks there would be no necessity for a "season" in the matter. "There are many other fungi, every whit as palatable as the common mushroom, which are ready for the market in other months. Of these, however, the cookery book feigns absolute ignorance, and our only hope lies in the annually increasing interest displayed by scientific epicures towards the hitherto most undeservedly despised tribe of fungi. The mushroom, it is true, is a fungus; as are also the morel, the champagne, and the truffle. But the favor accorded to these four species only aggravates the contempt with which we treat many of their congeners. There are at least sixteen edible British species of the genus *agaricus*, of which the gorgeous *agaricus Cæsareus* has been declared to be at once the best and the most beautiful. The mushroom is only one of these, and therefore inferior to his highly colored cousin with the Roman patronymic; and yet, for some reason, the mushroom has been singled out in England for notice and appreciation, while such is the mystery of fashion, the inhabitants of Italy and Hungary avoid it as poisonous. They, however, eat several species which in England, for the trivial reason that they will not part readily with their skins, are stigmatized as neither more nor less than venomous toadstools. Perhaps the fact that ancient writers have dubbed the toad himself as a malefactor who 'sittes on his stoole, lording it' has something to do with the ignorant prejudice against so many esculent and excellent fungi. 'Were not ten righteous men enough to save the Cities of the Plain, and shall we utterly condemn' a tribe of plants of which a single genus contains sixteen good and wholesome vegetables? It is sheer ingratitude to persist in including the whole unlucky order—'unlucky as the Fungoso in the play', as Pope has it—in such wholesale condemnation. Dr. Badham enumerates no fewer than thirty species of toadstools which are natives of Britain, and were eaten by himself and friend. In the matter of fungi, the Japanese have already shown the way, for they export as much as 1,200,000 fr. worth of indigenous species for the Chinese market annually. Their method of cultivation too, seems simple enough. A few logs with shallow

transverse trenches cut in the wood are soaked in water, and carried into some shady place among the trees. The rest is left to Nature and the fungus, until at harvest-time the Japanese owner comes round and collects his crop. This arrangement suffices for five years, and does not seem to present any insuperable difficulties in inception or execution.—*British Medical Journal*.

THE SUN-FLOWER.—(*Helianthus annuus*.) Lieutenant Maury thought he discovered that the sun-flowers planted around the observatory in Washington, in 1855 and afterwards, lessened the intensity of malaria. This small item found its way into Ziemssen's Cyclopaedia. The only medicinal use of any part of the plant is given by Prof. Porcher in his Resources of the Southern Fields and Forests. He mentions that "From the leaves of the plant, cigars are manufactured, of singular pectoral qualities. The stalk affords a superior alkali." "The French make a moxa out of the pith of the sun-flowers." He also says that according to Dr. Hales a sun-flower plant will lose as much as one pound fourteen ounces by perspiration in 12 hours. Taking all things into account a sun-flower perspires 17 times more than a man.

The *Medical Record* gives us an editorial, (July 29) covering the same ground, but in which that Journal is anticipated many years.

ST. LOUIS, August 25th, 1882.

Surgical practice does not frequently proffer the opportunity of employing nervo-tonic remedies, and therefore I am perhaps not competent to fully judge the therapeutic virtues of Celerina, a compound lately introduced by J. C. Richardson, Esq., of this city. I have however, used it with very satisfactory results, in at least twenty appropriate cases, and feel persuaded that it develops most happy actions, and that it deserves the attention of medical practitioners, more especially of those employed in the treatment of nervous affliction. I shall certainly continue to test it more fully, and report my observation in due time.—LOUIS BAUER, M.D., M.R.C.S. Engl. Professor of Surgery in and Dean of College of Physicians and Surgeons, St. Louis, Mo.

TRANSLATIONS FROM THE FRENCH.

By WM. G. EGGLESTON, Hampden Sidney College.

STAMMERING—BALBUTIES—PSELLISMUS.

Magendie defines stammering as a greater or less difficulty of speech, hesitation, jerky repetition, painful suspension and even complete obstruction to articulation, either of all syllables or certain particular syllables.

According to Columbat, stammering is an affection of an essentially nervous nature, the principal characteristic of which is the repetition by jerks and convulsive shakes of a greater or less number of syllables or, a painful and momentary suspension of the voice before certain vowels or consonants requiring some effort of the organs of phonation.

Finally, according to Rullier : Hesitation, difficulty of speech, more or less prolonged repetition, convulsive and jerky, of certain words or syllables difficult of pronunciation ; or complete arrest or suspension of the voice, in the midst of futile and violent efforts to speak, sometimes amounting to suffocation.

Characteristic Phenomena.—Stammerers can only speak for a few seconds before being arrested in the articulation of words or syllables which rise up as stumbling stones over which they are sure to fall. To surmount that obstacle, they make efforts which only increase the difficulty, by multiplying the number of times which they pronounce the offending syllable. Sometimes they stumble on one syllable and pronounce the next one precipitately and with effort ; sometimes they repeat the syllable already formed and join it to the following, repeating them all very rapidly, whence arises the peculiar noise expressed in Latin by *Buttarismus*. Ordinarily the hesitation of speech is particularly noticeable in the articulation of the consonants, K, T, G, L.

If the vocal spasm increases (the theory of vocal spasm is now exploded) the difficulty embraces a greater number of consonants; sounds hitherto perfectly simple of production cause momentary arrests, or suspension of speech, and sometimes strangulation. The muscles of respiration may precipitate in the convulsive movements, as may those of the face and give to the expression a very peculiar grimace. Stammerers speak, as a rule, in an excited and seemingly heated manner, but this renders articulation more easy for them, and the annoyance to their auditors is their gain in ease of expression.

Varieties.—Boissier de Sauvages gives eleven varieties of stammering.

- 1st. Stammering proper—Psellismus ischnophonia.
- 2d. Thickness of pronunciation—Iotacismus.
- 3d. Bad pronunciation of the letter L—Psellismus lambdacismus.
- 4th. Lipping—Psellismus traulotes.

- 5th. Traulismus—Psellismus balbuties.
- 6th. Difficulty in pronouncing labials—Psellismus mogilalia.
- 7th. Stammering from metallic poisons—Psellismus metallicus.
- 8th. Difficulty in pronouncing the gutturals—Psellismus iotacismus.
- 9th. Speaking through the nose—Psellismus nasitas.
- 10th. Difficulty of speaking from hare-lip—Psellismus logostamatum.
- 11th. Difficulty of speaking due to ranula—Psellismus a ranula.

It is easily seen that Sauvages did not confine himself to stammering proper, but included every variety of embarrassment of speech, due to any and every cause.

Columbat gives two classes :

The first class, bearing a striking analogy to chorea, he has called *labio-choreic*. There is a kind of chorea of the lips, and a more or less rapid succession of convulsive movements executed by the tongue, the lower jaw, etc., etc. In this variety there is a disagreeable repetition of consonants, as bbbb, tttt, qqqq, mmmm, etc.

The second class, *guttero-tetanic*, is characterized by a kind of rigidity of all the muscles of aspiration, principally those of the muscles of the pharynx and larynx. This kind of stammering is especially noticeable in uttering the gutturals, c, g, k, q, and the vocal sounds, a, a, e, e, i, o, ou, an, on, and in, is always accompanied by painful efforts at articulation, and is specially distinguished by certain intervals of silence, by immovability of the tongue, by constriction of the glottis, and a species of momentary suffocation, occasioned by constriction of the muscles of the larynx, and approximation of the lips of the glottis.

The distinguishing characteristic between *guttero-tetanic* and *labio-choreic* stammering is that in the latter varieties the persons affected are lively, nervous and ordinarily speak very rapidly without seeming to make any effort at articulation, until arrested by repetitions of bbb, qqq, ttt, etc. whereas, in the *guttero-tetanic* variety, on the contrary, they speak slowly without being able to express themselves, but always making efforts to articulate the rebellious syllables.

Labio-Choreic stammering presents four varieties :

1. Loquacious *labio-choreic* stammering with *sputtering* or *jabbering*. Persons thus affected are lively and petulant in character, speak rapidly, are never at a loss for a word, and have no moments of silence, although they stammer on nearly every syllable, and add to their stammering the vice of speech called "sputtering," a confused pronunciation of the words with such rapidity that they are separated and articulated in half. This variety is very common. Columbat observed 73 cases.

- 2d. *Deformed labio-choreic* stammering. Characterized by grimaces and convulsive movements of the face, eyelids, forehead, brows, nose and lips. Sometimes intermittent, is comparatively easily cured, and less likely to recur.

3d. *Mute labio-choreic* stammering, or stammering of women, is characterized by convulsive movements of the tongue, lips and lower jaw, but the repetitions, as of bbb, ppp, ggg, are not heard. It is one of the most difficult to cure—14 cases.

4th. *Lingual labio-choreic* stammering is recognized by the projection of the tongue out of the dental arcade.

Guttero-tetanic stammering presents six varieties :

1st. *Mute guttero-tetanic* stammering. Sound is produced only after several successive noiseless aspirations—19 cases.

2d. *Intermittent guttero-tetanic*. It may come on only at long intervals, the sufferer being unable, during the attack, to utter a single word, but speak with perfect ease when it passes off. Frequent—48 cases.

3d. *Choreiform guttero-tetanic*. Characterized by choreic movements of the head, arms and legs, noticeable only during an effort at speaking.

4th. *Canine guttero-tetanic*. So called from the broken repetitions which resemble the barking of dogs.

5th. *Epileptiform guttero-tetanic*. Characterized by contortions, spasms of the muscles of the chest, the abdomen and neck, of the lower limbs and sometimes of the platysma myoides.

6th. *Guttero-tetanic* stammering with *baryphonia*. Almost always due to an affection of the head.

Finally, Columbat gives *mixed guttero-tetanic*, in which there is a mixture of two or more of the others.

Violette objects to the *guttero-tetanic*, there being never tetanus or contractions of the laryngeal muscles, but only convulsive movements. He thinks that the name should be *guttero-convulsive*.

The first four varieties of *labio-choreic* stammering correspond to what Bonnet calls *difficulties dependent on vicious movements of the larynx*. He regards the movements of the lips as subordinated to the difficulty of certain movements of the tongue. The theory is entitled to higher regard inasmuch as the knowledge of the convulsive movements of the lips does not furnish a single therapeutic idea, while that of the tongue leads to the true curative indications of certain varieties of treatment.

The third and fifth varieties of *guttero-tetanic* stammering are identical, and the sixth should be stricken out, being rather a symptom than a true stammering.

Deleau recognizes three kinds of stammering :

1st. The first variety is due to vicious habits contracted in early childhood, as thickness of speech, labiodacism, hottentatism, and other vices of pronunciation consisting in a sound badly articulated or substituted for another.

2d. Stammering due to organic lesion, or continuous stammering as

observed in apoplectics, paralytics, idiots and persons with some lesion of the organs of speech—as of the tongue.

3d. That variety having for a near cause an infirm will; an incomplete cerebral action; or a nervous influx insufficient to direct the organs of speech in a proper manner.

This last constitutes stammering proper. Of this Delau gives three species.

1st. *Lingual or Loquacious Stammering*.—Persons thus affected repeat the words several times very rapidly. It is the tongue only which, by its disordered movements, constitutes this species.

2d. *Labial or Deformed Stammering*.—These persons seem unable to work the mouth. They give out a suppressed speech resembling more a roaring or bellowing than the human voice. They contract the muscles of the face with violence, alternately raise the commissures of the lips and roll their eyes.

3d. *Painful or Mute Stammering*.—Characterized by difficulty, or even impossibility of making any sound, in spite of the great efforts of the muscles of the chest and the diaphragm. The opening of the glottis is so contracted that respiration is momentarily suspended.

Causes.—Sauvages places stammering among the *dyscinesie* diseases of which the principal symptom is *debility*, diminution or suppression of muscular movement in the organs controlled by the will.

[It is unnecessary to discuss the various theories which have been upheld to account for stammering.

“At the International Medical Congress held in Amsterdam in 1879, M. Chervin, of Paris, read a paper on stammering. This disturbance of speech is generally ascribed to a spasm of the muscular apparatus that aids in the articulation of sounds. This theory, which is essentially false, has led surgeons to perform many unfortunate and useless operations, (section of the tongue or of some of its muscles; extirpation of the tonsils, the uvula, etc.) M. Chervin thinks that stammering is caused simply by a disturbance in the co-ordination of the movements that are necessary to emit an articulated sound. This explains how it is that this disturbance of speech is frequently of an intermittent type; and why under the influence of a methodical treatment, which is really only a series of gymnastic exercises that are practiced by the apparatus which helps to form articulated sounds, it is possible to cure this affection in a very short time. In general, fright and emotion play a great part in the etiology of the affection. It occurs more frequently in the male than in the female sex, which the author attributes to the fact that young girls are less exposed to violent emotions. The treatment lasts about three weeks. During the first week, the patient has to go through methodical exercises of reading and recitation for a certain number of hours daily; for the remainder of the

time, he must be perfectly silent and isolated from his friends. In the second week, he is allowed to speak to his attendants or friends, but must speak very slowly, and pronounce each syllable distinctly. In the third week he may converse freely, but still must speak very slowly.—*British Med. Journal*, September 27, 1879].

Extract from the article on Stammering in Nouveau Dict. de Médecine et de Chirurgie Pratiques.

VELOCITY OF NERVOUS TRANSMISSION IN MAN; DURING A CEREBRAL AND A REFLEX ACT; SENSITIVE VELOCITY AND MOTOR VELOCITY.

M. Albert Rene has recently published the result of some new experiments on this subject, which are worthy of consideration. One important fact made clear is that: *The intensity of the excitation varies the velocity of the nervous transmission.* The stronger, the excitation, the more rapid the transmission.

This principle being well established, we may obtain for the velocity of nervous transmission an absolute and constant figure. It is necessary in giving a number of formulæ for nervous transmission to take account of the intensity of the excitation with which the velocity has been measured. The nervous velocity varies with the intensity of the excitation.

Having established these principles we may formulate the results obtained in a series of experiments.

I. The duration of an elementary *cerebral act* may be given as $\frac{3.2}{100} - \frac{3.5}{100}$ of a second. This duration only applies to students of medicine or physicians. In adults, as a rule, the duration for the same cerebral act is longer $\frac{7.5-9.4}{100}$ of a second.

The duration of a *reflex act* (that is the completion of an entire reflex arc; sensitive excitation of an index and reflex movement of the same index) for the same excitation is $\frac{15}{100} - \frac{16}{100}$ of a second.

II. The velocity of a sensitive transmission has been measured in two ways.

1st. *Audition Excitation*.—This seems more exact and the really acceptable method. The velocity of sensitive transmission, calculated by this method is 28 metres per second.

2d. This proceeding, which consists in measuring the sensitive velocity by the differences of the time employed to traverse the different lengths of the nerves is not exact.

III. Under the same reservations and for the same excitation (34.5°) the velocity of motor transmission should be counted equal to 20 metres per second.

IV. As to pathological applications, the study of the velocity of nervous transmission can be made very useful. There has been observed a considerable retardation in a case of locomotor ataxia, and relatively a notable acceleration in the beginning of general paralysis. In regions where clinical observation alone could discover nothing abnormal (under surface of the great toe), commencing anæsthesia has been diagnosed, when the dorsal aspect of the toe responded to slight electric stimulus.

V. In animals, the velocity of transmission varies considerably, not only with the intensity of the excitation, but as the excitation is made by shutting or breaking the current. It has been established that the mean for rabbits is 12.50 m. per second, for frogs 21 m., for the velocity calculated with excitations of 33° — 36° .—*Revue Med. Franc. et Etrang.*

M. DENIS DUMONT has cured a case of undoubted hydrophobia by hypodermics of pilocarpin. He used three hypodermics of 1 centig. each per day. The object was to provoke unusual salivation and perspiration.—*Idem.*

M. F. PONCET has been making some experiments as to the state of the optic nerves in ataxic blindness, and concludes that

1st. The alteration in ataxic blindness is not peripheric, but leaves the external portions of the sensorial apparatus intact.

2d. Sclerosis of the orbital part of the optic nerve is secondary to the parenchymatous atrophy.

3d. In ataxia, the tissue and the neuroglia cells do not present any hypergenesis. The blindness accompanying this affection appears then due to a central nervous affection.

ATROPIA IN CORYZA.

Dr. Gentilhomme says: "After numerous experiments, sulphate of atropia appears to have an immediate action on the first appearance of coryza. Stopping the excessive flow of mucus, and the incessant sneezing. Even when administered in a confirmed case it produces great alleviation when there is co-existent bronchitis, but the action is less marked than when it is administered in the beginning of the inflammation. Dr. G. prescribed it in several cases where the affection has run into bronchitis, with high fever and attacks of asthma, in each case with the most gratifying success.

[Would it not be well to give it in combination with quinine? I have found nothing so obnoxious to a "bad cold" as grs. x of quinine on going to bed.—TRANS.]

DECOCTION OF ONIONS IN MILK IN DROPSY.

Dr. Francisco Riskey publishes, in *La Union Medica* de Caracas, some facts regarding dropsy, in which the decoction of onions given in milk gave some very unexpected results. The formula is very simple: Take one or two onions of ordinary size, chop up fine and boil a short while in one or two quarts of milk. To be taken in small quantities during the day. No other food must be taken. He reports a case of ascites and great œdema of the lower limbs cured in a short time by this simple medication, after tapping the abdomen. The patient was an old alcoholic.

THE WORKS OF GALEN.—An important literary and scientific discovery, says the *British Medical Journal* (Aug. 19th), is announced from Salonica. The works of the celebrated physician, Galen, which were supposed to have been lost, have been discovered by M. Papageorges. They are in manuscript; date from the 15th century, and appear to have originally formed 248 sheets; 144 are in good condition, 24 are worm-eaten, and 80 are missing.

ST. LOUIS, August 25th, 1882.

The concentrated extract of *Pinus Canadensis* has established for itself the most unqualified commendation as an astringent, and it scarcely requires any further affirmation on my part.—LOUIS BAUER, M.D., M.R.C.S. Engl., Professor of Surgery in and Dean of College of Physicians and Surgeons, St. Louis, Mo.

THE only British officer killed in the recent engagement at Kassassin was Surgeon-Major J. A. Shaw, Army Medical Department. He was a Graduate in Medicine of Queen's University, Ireland. He entered the army as assistant-surgeon in 1864, became surgeon in 1873, and surgeon-major in 1876.—*British Medical Journal*.

A SUCCESSFUL CASE OF TRANSFUSION.—Dr. William Walter reported a case of successful transfusion after severe *post partum* hemorrhage. Whilst preparations were being made to defibrinate the blood, the patient was reported lifeless. The small quantity of blood then ready (4 oz) was injected and in from 10 to 12 minutes respiration became distinctly visible and audible, the pulse returning to the wrist. In a month she was able to walk out doors.

NOTES.

SEND to Parke, Davis & Co. for *Working Bulletin for Scientific Investigation of Convallaria majalis*.

CINCHONA FROM THE WEST INDIES.—Twenty-three thousand nine hundred and eighty-one pounds of cinchona bark, valued at \$36,000 00 have been shipped from Jamaica during the past year. This gives us another source of bark, rather more certain than the promised synthetical quinine of manméné.

AMERICAN PUBLIC HEALTH ASSOCIATION—NATIONAL MEDICAL AND SANITARY EXHIBITION.—There will be a conference of Commissioners of State Boards of Health, with Commissioners from the American Public Health Association, at Indianapolis on the 17th of October, during the session of the American Public Health Association. Drs. Chas. J. O'Hagan, R. L. Payne and Thomas F. Wood will attend the meeting in behalf of the North Carolina Board of Health.

A BETTER FORMULA FOR QUININE SOLUTION FOR HYPODERMIC USE.—We have published several formulas for quinine solution for hypodermic use, but the experience of a few seasons prove the following to be better than others we have made public.

Take of Quininæ sulphatis,
Acidi tartarici,
Aquæ, aa ʒ i.

M. Filter the solution before using.

At this season, when pernicious fever destroys life so rapidly, many lives may be saved by having this solution at hand for immediate use. Quinine by the mouth is in many cases impossible by reason of nausea, and a dose of 20 to 60 grains of quinine administered subcutaneously, early in the attack, will relieve the physician from much anxiety in the intervals of his visits. Profound cinchonism is the only hope for life, and nothing should deter the doctor from giving boldly the necessary amount.

THE TREATMENT OF INTUSSUSCEPTION.—In the September number of the *New York Medical Journal and Obstetrical Review* Dr. W. R. Gillette, Physician to Bellevue Hospital, relates a case of

intussusception in a child nine months old, relieved by injections of water, the administration of chloroform by inhalation, and manipulation of the tumor felt through the abdominal wall. This, he states, is the third case of intussusception in infants which he has seen, and which he has been able to reduce by these means. He thinks that these cases, from the philosophy of their condition, and the necessary measures for relief, are best managed in the way indicated. In two other instances, in which he saw and advised the treatment, reduction was utterly impossible under the other methods tried. The children in each of these cases were held while struggling, and the injections forced into them against all voluntary and involuntary efforts which they could make. He deems the administration of chloroform almost absolutely necessary in these cases. The reason is not difficult to find, inasmuch as, while it gives us such perfect control of the patient, it also eliminates the element of muscular spasm. Moreover, massage is a powerful adjuvant to the hydrostatic pressure of water in these cases. In the first two cases the obstruction was not overcome until massage also was employed.

EXTRACT OF CONVALLARIA. (*Lily of the Valley*).—The interest taken by physicians in this drug is daily increasing. We have received from Messrs. Parke, Davis & Co., the enterprising pharmaceutical chemists of Detroit, Mich., a sample of this extract. It is doubtful if it can be obtained elsewhere, until a new crop of the plant is ready for market. We give a copy of the descriptive label: "LILY OF THE VALLEY FLOWERS; *Convallaria Majalis*. Synonym.—*Lily-of-the-Valley*. Part employed. *The Flowers*. NATURAL ORDER—*Liliaceæ*. Habitat, United States and Europe

"*Properties*—*Lily-of-the valley* has recently been brought forward as a cardiac tonic, acting indirectly as a diuretic. It is said to resemble digitalis in its action on the cardiac fibre, diminishing the frequency of the heart beat and increasing the tonicity of the contractions.

"Flu'd extract of the flowers. Dose 5 to 15 minims, which may be gradually increased until effects are secured." (The whole plant was used by Prof. Sée.)

Was the use of the plant suggested to Prof. Sée by Ralph D. Ary, M.D., of Romeo, Mich? It would seem so by priority of announcement.

PELLETIERINE THE BEST TENIAFUGE.—Dr. Béranges Ferand has given the result of his examination of the relative value of teniafuges, founded upon cases treated in the marine hospitals de Saint-Mandrier and de Cherbourg. The number of cases admitted for tape-worm in 20 years amounted to 1,000. The teniafuges used were *oil of turpentine*, *male fern*, *pumpkin seed*, *koosso*, *pomme-granite rind*, and *pelletierine* (the active principle of *pomme-granite*.)

He esteems *koosso* and *pumpkin seed* as tolerable teniafuges, but thinks that the successes for *koosso* will have been greater if the fresh drug could be obtained.

Pomme-granite has given the best results, all things considered. But as *pomme-granite rind* is not uniform in its quality, it is best to rely upon *pelletierine*, its active principle. That *pelletierine* in proper doses and with proper precautions is the most efficient teniafuge that we possess.

PROF. ATTFIELD in a late address before the British Pharmaceutical Conference says :

“Proprietary preparations and patent medicines were not the un-mixed evils which they were sometimes represented to be. They supplied the demand for simple remedies—a demand which really lay outside medical practice. They might not be the best means of supplying that demand. No doubt it would be better for the qualified pharmacist to make such remedies himself. But he was discouraged from doing so. With what result? In no country was traffic in secret remedies more rife. It was, of course, wrong for the pharmacist to meddle with pathology, attempting to diagnose while knowing nothing about the human frame. But, whenever and wherever a druggist was free to sell a patent medicine, he surely should be free to sell and to be able to sell a simple remedy prepared by himself, by the aid of that special pharmaceutical knowledge and skill which are the guarantee that he is something more than a mere drug distributor. The inability to recommend remedies, characteristic of the mere seller of drugs, and the professional jealousy which would stop a qualified pharmacist from recommending them, have probably done more to foster the present enormous demand for secret remedies than all other causes put together. The reduction of what was sometimes termed the patent medicine evil would probably be effected, chiefly, by that gradual extension of pharmaceutical knowledge among our future pharmacists which would enable them to supply from their own shelves simple remedies for those tiresome minor maladies for which the public were now driven to patent medicines.—*British Medical Journal*.

OBITUARY.

BENJAMIN F. GIBBS, M. D.

We learn from Mr. Charles Rice, chairman of the Committee of the Revision of the U. S. Pharmacopœia, that a cablegram has been received announcing the death of Medical Inspector Benjamin F. Gibbs, Surgeon in the Navy, and a member of the Committee of Revision of the Pharmacopœia. The U. S. Flag-ship Lancaster put into Trieste, Sept. 10, with Dr. Gibbs, who had then been ill for some time. Shortly after he died in the hospital.

He was highly esteemed as an active and useful member of the Pharmacopœial Committee, for which he had done very much in striving to make the work successful. Dr. Gibbs was apparently 50 years of age, genial, courteous and accomplished, an ornament to the Medical Service of the Navy.

BOOKS AND PAMPHLETS RECEIVED.

What to do in Cases of Poisoning. By Wm. Murrell, M.D., M.R.C.P. Second Edition. Detroit: G. S. Davis. 1882

Transactions of the Medical Association of the State of Alabama. The Report of the State Board of Health. Mobile. April '11-14. Montgomery, Ala.: Barrett & Brown 1882. Pp. 492.

Lacerations of the Female Perineum, and Vesico-Vaginal Fistulæ Their History and Treatment by D. Hayes Agnew, M.D. With 75 Illustrations. P. Blakiston Son & Co., 1012 Walnut St. 1882. Paper covers price 75 cents.

A Treatise on the Physiological Action of Sulphate of Quinine. By Otis Frederick Manson, M.D. Philadelphia: J. B. Lippincott & Co. 1882. Pp. 164.

Some of the Simple Methods of Performing Hystero-Trachelorrhaphy. Reprint from Obstetric Gazette. By O. E. Herrick, M.D., 54 Monroe Street, Grand Rapids, Mich.

Ten Years' Experience in the Treatment of Stricture of the Urethra by Electrolysis. By Robert Newman, M.D. Reprinted from the Medical Record, August 12 and 19, 1882. New York: Trow's Printing and Bookbinding Company, 201-213 East 12th Street. 1882.

Medical College of Virginia, Richmond. Announcement of the Session of 1882-'83, and Catalogue of Graduates for the Session of 1881-'82. Richmond: Whittet & Shepperson, Printers, Corn r 10th and Main Streets.

The Malignity of Syphilis with an Analysis of 450 Cases of the Disease. By L. Duncan Bulkley, A.M., M.D., &c., &c. Reprinted from the Transactions of the Medical Society of the State of New York, 1882.) New York: G. P. Putnam's Sons, 27 and 29 West 23d Street. 1882. Pp. 28.

NORTH CAROLINA MEDICAL JOURNAL.

THOMAS F. WOOD, M. D., Editor.

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ORIGINAL COMMUNICATIONS.

THE RIGHT ARM FORCIBLY SEVERED FROM THE BODY AT THE SHOULDER JOINT—RECOVERY.

Read Before the Medical Society of North Carolina at Concord,
June, 1882.

By R. F. LEWIS, M.D., Lumberton, N. C.

George Smith, white, aged 26 years, last fall superintended the ginning process at the steam mill belonging to Mr. L. C. Hamar in Robeson county ; while the machinery was in motion he attempted to make some coupling of the shafting, when his shirt sleeve was caught in some way by the cogs and his right arm was completely torn from the shoulder joint, carrying with it the entire scapula denuded of all muscular tissue.

Mr. Hamar who was in another part of the building, felt the jar given by the machinery, had the engine stopped, and hastened to the room where Smith was engaged. When he reached the door, he encountered such a quantity of dust, that he was unable to see into the room. He called to Smith, asking him if he was injured. The reply was : " Yes, my whole arm is jerked off." Smith was

found in a stooping position, his left hand resting on the floor, with every particle of his clothing, but his shoes and socks, torn from his body—the severed arm lying several feet from him. There was very little blood upon the floor, and scarcely any escaping from the



lacerated shoulder. He was immediately removed to his dwelling, which was but a few yards distant, and surgical aid summoned.

Dr. John G. Dick soon arrived, and, of course, found nothing for him to do. Some one asked the doctor what disposition should be made of the arm, and his reply was, "take care of it a short while, and it can be buried with his body."

I saw him on the morning of the third day after the accident. He was very weak, with a feeble pulse of 120 beats per minute. Complained of no pain, scarcely. Was taking whiskey in small quantities, with an occasional dose of landanum. The wound looked like it was the work of an accomplished surgeon, rather than an accident, save that there was hanging, about eight inches of the median nerve from the wound. With a pair of forceps I gently touched this, and he complained of very acute pain. I could see the pulsation of the axillary artery quite distinctly.

There was a very severe contusion over the forehead, which he received while he was fastened to the end of the shafting; when, he could not say. Says the arm was broken and twisted before he was thrown from his feet, and thinks he must have received the blow while he was being whirled around with the pulley, by striking against one of the timbers used as a part of the braces that held up the shafting. He did not recollect suffering any very acute pain when the accident occurred. It seemed rather like an indistinct dream to him.

I believed that he was then suffering from shock, and was satisfied that his hours of life were but few. Just as I was leaving, he asked me to give him my candid opinion of his condition, which I did, remarking that I was surprised at his having already lived so long.

I afterwards heard, that as soon as I left the room he expressed his belief of getting well, saying: "these doctors don't know it all." The sequel will show that Smith was right.

I heard from him every day, continually expecting to hear of his death, first from shock; the danger from this passed. I learned that he was getting stronger and that suppuration was beginning, then I feared secondary hemorrhage; but nothing of the kind occurred and his convalescence was rapid, without a single unfavorable symptom. When the wound was nearly healed, Dr. D. Sinclair removed a very small piece of the head of the clavicle. This was the only surgical attention he received and I doubt that this was required. Nature, no doubt, would have soon disposed of it, if it had been let alone.

I am now satisfied that he never had *shock*. The very severe blow he received upon the head, which was given, evidently, before his arm was severed, rendered him insensible to acute pain, and consequently in no condition to receive shock.

From the London correspondent in the Boston *Medical and Surgical Journal*, I gather, that at Guy's hospital the surgeons use torsion to the exclusion of the ligature, except sometimes in small vessels when it is difficult to isolate the vessel from muscular fibres. He has seen every kind of amputation there, except of the hip-joint, and never a ligature applied to large vessels. They seize the cut end of the vessel with strong forceps, twist it until it is felt to

"give way", that is, the two inner coats break. He had seen as many as ten turns given to the femoral artery. One of the surgeons of the hospital remarked that "theoretically, the twisted end ought to slough off, but practically it never did," for a long time they had ceased to dread or look for secondary hemorrhage, where torsion had been thus applied.

To this blow, then, Smith owes his immunity from shock; and from the torsion given to the arteries, his escape from secondary hemorrhage.

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 THE EVOLUTION OF MEDICINE.*

By E. P. HURD, M.D., Newburyport, Mass.

[Concluded.]

Subsequent workers in biology have shown that irritability and sensibility are properties, not merely of muscle and nerve tissue, but every form of living matter.†

In the protozoa and the mammal we observe the ability to appreciate irritants and to react by appropriate movements. Every unit of structure and every congeries of units is being continually acted upon by disturbing agencies in the cosmos, and is undergoing change, of which movement is an expression. Each nerve of special sense is responsive to its proper irritants. The motor nerve is the irritant of the muscle, a nervous centre is the irritant of the motor nerve, a sensory nerve of the nervous centre, stimuli of various kinds in the world without or in the circulating blood (happily called by Claude Bernard the interior environment) are the irritants of the sensory nerve ‡

*Read before the Tuesday Night "Club," Newburyport, Mass.

†The "inevitability" of Brown is the same thing as the "irritability" of Glisson. The same may be said of the use of the term "excitability" by Tiedemann. Virchow prefers the term originally proposed by Glisson, and lays down the proposition which no one now disputes that every thing which is living is irritable and every thing which is dead is not. Virchow distinguishes special irritants and different kinds of irritability (that of muscle, nerve, gland, &c.,) he admits pathological irritants, and recognizes three kinds of irritability: 1. Functional irritability. 2. Nutritive irritability. 3. Formative irritability. Cellular Pathology. Lecture XIV.

‡Claude Bernard—"Leçon sur les Propriétés des Tissus Vivants." Leçon IV.

These "incitations" may be normal, or they may exceed the normal standard and produce disease. Here is the datum on which Broussais built his general pathology. Certain medicines diminish this irritability and thus restore normal physiological function when it is deranged; others increase the irritability of certain organs, and thus are indicated when this is deficient. This is the fundamental principle of this school of medicine.

Thus we see that the "faculties" which in the system of Galen and his successors discharged the functions of each organ, also the "anima" of Stahl, and the "archæus" of Von Helmont are in this school, replaced by something more directly in relation with the organ itself, namely by the vital properties of the organ.*

Thus far the term "vital properties" seems to have been applied in a vague general way and there was no exact classification of the tissues and their functions. Bichat in the beginning of this century divided the corporeal mechanism into its elementary tissues, and became the founder of general anatomy. His classification has been the point of departure of all subsequent classifications. He designates twenty-one tissues,† but Leydig, bringing to the investigation the aid of the microscope has reduced them all to four, which are the fundamental tissue elements, viz.: the nervous element, the muscular element, the connective tissue element, and the cell element (i. e., epithelium, blood globules, glands, etc.)

What gave scientific character to the work of Bichat is the careful study which he gave to the properties of each of these tissues, and the fact of his having localized there an elementary vital phenomenon. Each elementary tissue represents a particular function. All the vital properties were relegated by him to tissues; the organs of the old physiology were superseded by more elementary parts which account for the constitution and the phenomena of living bodies as

*"L'irritabilité n'est pas une cause finale; c'est, comme, l'attraction, un mot, rien qu'un mot destiné à rappeler à l'esprit la force qui produit certains phénomènes; phénomènes que l'on peut observer, force que on peut étudier, apprécier dans ses effets, et qui n. a. d. inconnu que son essence."—Longet, *Traité de Physiologie*. P. xiii.

†Cellular tissue, nervous tissue of animal life, nervous tissue of organic life, arterial tissue, venous tissue, tissue of exhalant vessels, tissue of absorbent vessels and their glands, osseous tissue, medullary tissue, cartilaginous tissue, fibrous tissue, fibro-cartilaginous tissue, muscular tissue of animal life, muscular tissue of organic life, mucous tissue, serous tissue, synovial tissue, glandular tissue, cutaneous tissue, epidermic tissue, hairy tissue.

the simple elements of chemistry explain the phenomena of inorganic bodies. Bichat in the introduction to his General Anatomy defines clearly his standpoint. "The general doctrine of this work is to analyze with precision the properties of living bodies; to show that every physiological phenomenon is referable in the last analysis, to those properties considered in their natural state; that every pathological phenomenon proceeds from their augmentation, from their diminution or from their alteration; that every therapeutical phenomenon has for its principle the restoration of these properties to the natural standard from which they have departed."

The doctrine of Bichat, so grand and so simple, opened the way to new researches, to new investigations; in a word, to progress. The single idea, vital properties, properties of tissue, provoked minute investigation into organs, and gave a powerful impetus to experimental physiology.*

Speculations about mysterious causal entities were abandoned as fruitless and useless, and the secrets of life were sought in observation of phenomena and in experimentation. Materialism in medicine has been the watchword of progress. It is with material lesions and material derangements that the physician is occupied. Even in the treatment of mental diseases he has to deal only with the material pathological causes, and he must *practically* regard mind only "as congeries of the activities and functions of the brain, the will being their highest resultant."†

The therapeutics of Bichat are summed up in a few words, viz.: the restoration of the altered vital properties of the part affected. In inflammations with exalted contractility and sensibility you reduce this exaltation by lotions, poultices and baths; where these properties are lessened, you must use stimulating applications. There are general and local tonics, needed in cases of debility. Where exalted sensibility, which is pain, needs to be alleviated, anodynes, local or internal, are indicated. According to Bichat

*E. Fournié "Application des Sciences a la Médecine." P. 110.

†This remark demands some qualification. While holding the cerebral psychology of such eminent physiologists as Claude Bernard, Vulpian, Ferrier, etc., I yet see no escape from the stern logic of the Kantian philosophy which reduces matter and material combinations to affections of consciousness. If then consciousness be the fundamental reality, how can it be dependent on material combinations?

We are hemmed in on all sides by inexplicable mysteries and irreconcilable contradictions.

morbid phenomena reside essentially in the solids, and yet some diseases, as the septic and contagious fevers, have their chief seat in the blood. In calling the attention of physicians to the seat of the ailment, in insisting on the material alterations which characterize disease, and the necessity of restoring deranged function, and in creating the science of morbid anatomy, Bichat, though he died at the youthful age of thirty-one, has earned for himself the gratitude of the present and all future time. It was now possible to localize morbid lesions in special tissues, and the autopsy for the first time in the history of man, became fruitful in useful results. Rokitansky who followed Bichat, performed in the hospitals of Vienna and Prague more than thirty thousand post mortem examinations; the results we have in five large volumes, and pathological anatomy has become as essential to rational medicine as physiological anatomy. We can now complete the natural history of disease (founded by the school of Hippocrates) by the pathological lesions.*

Bichat's fundamental classification of the functions of the human body, into functions of organic or vegetative, and functions of animal life, has been adopted by most physiologists, and expresses an important truth. The larger part of our physiological processes are unconscious and involuntary; the animal life, or the sensory, conscious, voluntary life, is something, as it were, superadded to the organic or vegetative. And yet these are not two natures which have taken possession of us, but only one; the *conscious mental* life is only a higher development of the *unconscious* bodily life. The unconscious organic life is continually obtruding itself into the sphere of the conscious, and what was once conscious and voluntary, becomes organized as habit, and takes its place among the profundities of our organic unconscious nature.

Bichat, moreover, erred in treating nutrition as a function of organic life. Nutrition is not a function of living matter, it is *living*. "*Le nourri c'est vivre*," says Claude Bernard. The opposition or contrariety between life and death which Bichat predicates in his celebrated definition: "Life is the sum of all the functions

*The connective tissue diseases are familiar instances of the light which Bichat's researches have shed on pathology. We are now able to locate many chronic diseases in this fibrous bind-web; the cirrhoses of the liver, kidneys, spinal cord, for example.

which resist death," does not exist, for in every living substance destructive processes are simultaneous with the constructive or organizing. It is a sort of element strife to which a whirlpool offers a faint analogy.*

What Bichat lacked was a knowledge of the elementary principles of biology, a department of science which has undergone great development in our own times, and a knowledge of which is so essential as the groundwork of physiology and medicine.

If the study of morbid anatomy received an immense impetus, from the labors of Bichat, the science of histology has been almost created since his day. If diseases must be studied in alterations affected in the tissues and fluids, then let us resolve these substances into their elementary parts, and ascertain how the individual units are affected. The simple rude lens of *Lenwenhoeck* and *Malpighi* had been gradually evolved into the compound microscope, which in the hands of *Mirbel*, *Turpin*, *Dutrochet*, *Schleiden*, *Schwann*, &c., revealed the cellular structure of all organic animal and vegetable tissue.

The next step was the development of histology on the basis of the cellular doctrine, and the cellular pathology, for which we are so much indebted to *Virchow*. In histology we owe much to French and German microscopists, among whom stand conspicuously, *Schwann*, *Valentin*, *Kolliker*, *Leydig*, *Frey*, *Robin*, *Cornil*, *Luys*, *Cohnheim*, *Ranvier*, *Charcot*. *Todd* and *Bowman*, *Lockhart Clarke*, *Bennett* and *Beale* in England deserve mention. The field of vision has been extended to the domain of the infinitely little. To fix the disease in a cell, or in a group of cells, is as *Jacobi* says, "the finest localization possible. As a rule we have to deal with a group of cells, like the chemist who works on and with a group of

**Flourens* did, in fact, apply the term *vital whirlpool* (*tourbillon vital*) to the fundamental process whose two sides are organization or nutrition, and disorganization or denutrition. Recent investigations have shown that the difference between living and dead matter is a difference of atomic mobilities and chemical constitution. See an essay by *Pflüger* published in 1875, also essays published last year by *Drs. Oscar Loew* and *Bokorny*, of Munich. The result of the investigations of these gentlemen goes to show that living protoplasm "owes its property of life to the presence of aldehyde groups which are characterized by intensely active atomic movement. When death takes place it is coöval with and caused by a transformation of these aldehyde groups into amyld groups, with diminished molecular motion, thus leading to cessation of action."—*New York Medical Record*, Sept. 23d, 1882. Page 364.

atoms." Before these histological researches the constitution of tumors was unknown. Now, their identity with, or departure from normal structure is well understood, and even the malignant growths are shown to be composed of normal tissue elements, but out of place and developed in a manner which inflicts disorder and harm on the organism. We are now able to say for each organ and each fluid what is the anatomical element which constitutes it and gives it its particular properties.

Moreover, since the discovery by Richert and Mohl of protoplasm, it has been shown that even the cell is not the fundamental unity, but that the essentially living substance is independent of structure, and endowed with the marvellous properties of nutrition, growth, reproduction, and movements apparently spontaneous.*

Types of this living matter, called by Beale "Bioplasm," are seen in the amoeba and in the white blood corpuscles; the latter play a part in inflammations so important as to almost revolutionize our notions of inflammation. We now know the human body to be composed of a congeries of these minute bioplasts, with the organs which they have elaborated, all mysteriously laboring for the welfare of the whole, in accordance with a law which Infinite Wisdom has ordained.

In the study of semeiology, or the symptoms of disease, very much help has been gained by the use of such instruments of precision, invented this century, as the stethoscope, the laryngoscope, the ophthalmoscope, the auroscope, and such clinical thermometers as every physician now uses. It must be noted, too, that the science of auscultation and percussion was the creation of Laennec, about the year 1830. "One hundred years ago," as Dr. Jacobi remarks, "the diagnosis of most local diseases was a very imperfect one. A fever, with difficulty of breathing, with cough or without it, was a thoracic fever, a pulmonary fever. When Morgagni

*Claude Bernard—(*Leçons sur les phénomènes de la vie*. Leçon I.) has shown that these movements are spontaneous only in appearance. There are always exterior agents, foreign to the living organism which provoke active manifestations in the matter of life. In the higher animals these stimuli generally reside in and act through what Bernard happily calls the "interior environment," i. e., the circulating blood. Beale, whose narrow-minded prejudice is conspicuous, is the only living histologist who defends the doctrine of the spontaneity of the movements of living matter. (See my review of Bernard in the *National Quarterly Review* for October, 1880).

had published his 'Seat and Causes of Disease,' and Laennec had developed auscultation and percussion, the disease was sought for and found in organs, and even in parts of organs. A pleurisy was diagnosed from a pneumonia, a pneumonia of the right from that of the left side, of the upper from that of the lower lobes." (Jacobi, Lecture on Virchow, in New York *Medical Record*).

The hypodermic syringe was invented by Wood, of Edinburgh, about the year 1854, and has been of immense value in therapeutics especially in the treatment of painful affections.

Among the positive acquisitions to medicine, and in the directions of exact science, I may enumerate:

1. The discovery of anæsthetics and, the utility of anæsthesia for relief of pain in medicine and surgery. Men of all medical schools are united as to the beneficial effects of anæsthetics in extreme pain, and in dangerous convulsive affections. These remedies act by suspending vital movements in the nerve centres of special sense and consciousness. They affect the sensory centres first, then the nervous centres generally, abolishing sensibility of every kind and all vital irritability.*

2. The specific effect of *unx vomica* on the spinal cord whose irritability it exalts. This property is utilized in cases of spinal exhaustion and debility.

3. The effects of the bromides in lessening and abolishing reflex spinal irritability, a property now utilized in the treatment of epilepsy and other spasmodic disorders.

4. The tonic effect of digitalis on the heart muscle, now generally utilized in all cardiac diseases characterized by debility of the circulation. It is not yet known whether the tonic action of this drug is due to a direct influence on the muscular fibre, or on the musculo-motor nerves of the heart.

5. The specific action of ergot in increasing the irritability, and thus tonifying the unstriated muscular fibre. This renders it valuable in hemiorrhages, and as a parturifacient.

*"The anæsthetic agent does not act on sensibility as a *function*, but on the irritability of protoplasm as property of the fibre or of the sensitive nervous cell; therefore the manifestations of sensibility and the expression of pain are suppressed, as well as the functional consequences which result therefrom. It is so with respect to every living element, both animal and vegetable."—*Dictionnaire de Thérapeutique*, par le Docteur Dujardin-Beaumetz, Article *Anesthésie*. (Paris, 1882).

6. The remarkable property of jaborandi in promoting the action of the perspiratory glands; which renders it the most speedy and most certain of diaphoretics.

The above are some of the positive acquisitions to the therapeutics of this day, where the therapeutical application is based not so much on empirical as on sound physiological knowledge.*

Among the medical heresies against which we have painfully and vexatiously to contend, is one which, while claiming for itself all progressive medication, and calling itself "new school," belongs, nevertheless, rather to the mediæval ages, of whose bizarre notions and of whose spirit it is the offspring. Had homœopathy never had a being, scientific medicine would have been just where it is to-day; certainly for no advance are we indebted to homœopathy. The essence of homœopathy is the animism of Stahl, and the system as such hardly needs sober refutation. In fact, it has been refuted again and again, but like certain noxious weeds, has extraordinary vitality,—the more you cut them up and hoe them out by the roots the better they seem to thrive.

One lesson we have learned (in part) from homœopathy. Disease is governed by laws of its own which are largely subordinate to the conditions which regulate life. The force of vital resistance is so great that all our remedies seem to have but a minimum influence in forwarding the natural tendencies toward recovery. It is quite possible to treat disease successfully with very little medicine. Better by far to give no medicine than to fight a disease of which you are ignorant with medicines of which you are even more ignorant!

Eclecticism has introduced into our *materia medica* valuable indigenous herbs, and has uttered an emphatic protest (which has not been without profit) against the antiphlogistic medication once too much in vogue. Hydropathy has taught us to avail ourselves of the remedial virtues of pure water, whose therapeutic range is so wide, and the marvellous stimulant and restorative power of electricity is every day being realized in chronic diseases, especially of the nervous system.

*We are in truth a little nearer than Molière's student, the solution of the question. "Pourquoi l'opium, fait il dormir?" We can point directly to the specific nervous element in which its "*Virtus dormitiva*" is exercised, and we can affirm that there is a temporary coagulation—an "*engourdissement*," of this element. But after all we can only state a fact which is ultimate and which we cannot explain. As physicians we are only occupied with the *how*! we have nothing to do with the *why*!

Real progressive medicine cannot be exclusive. There can be no systems in science. We want no "pathies," in medicine.

"In approaching the difficulties of clinical study," says Verneuil, "the present generation arms itself at the outset with all the resources which are lent by the sister sciences; it holds out its hands to the ancients and to the moderns, to the English, the Germans and the Italians, in order to borrow facts and ideas; it divides its time between the laboratory and the dissecting room, the library and the hospital; in a word it renounces no sources of instruction, being neither so senseless nor so vain as to repudiate whatever may render science more complete, and practice more efficacious."

There remains a vast *terra incognita* to be explored. Thanks to the histologists we know much about the microscopical anatomy of the tissues, but we have not yet penetrated the mysteries of life, nor do we yet understand that property of the tissues which we call their vital resistance. We know that there is this vital resistance (the old *vis medicatrix nature*) and that all our art is to support and favor it. Yet how often our efforts in this direction fail in permanent results, as where the vitality of the tissues is naturally feeble, or has been impaired by abuse.

"Practical medicine," says Claude Bernard, "cannot be an *art*. It must either be a science of expectant observation, leaving Nature to act, or a science acting in accordance with intelligent experimentation."*

With regard to the so-called diatheses (scrofula, rheumatism, herpes, etc.,) how much more do we really know than was taught by Hippocrates, and what more can we say, as to the so-called functional nervous diseases, tetanus, epilepsy, hysteria, chorea,—which, as yet, has no known material lesions for their basis?

Again, experimentation on animals, while it has enabled us to produce inflammations, septic poisoning and suppurations, at will has not, as yet, thrown any light on the causes of pneumonia, and many other common diseases. The same may be said of the cirrhoses (of the liver, kidneys and spinal cord), which, while undoubtedly produced on the human subject by alcoholism, cannot be produced in the animal by chronic alcoholic poisoning. This fact has recently been demonstrated by the patient experimentation of Dr.

*"Pathologie Experimentale," Paris. 1872. P. 513.

Dujardin-Beaumetz. Nor has any experimenter yet succeeded in producing in animals those lesions of the heart, arterics, and other tissues, known under the name of artheromatous degenerations. A temporary glycosuria may be produced in animals by certain lesions of the fourth ventricle; the disease known as diabetes certainly has never yet been so induced.*

There remains a large class of diseases, the so-called specific fevers, endemic or epidemic and contagious, of whose causes we are still profoundly ignorant. It is conjectured that the *materies morbi* may be a germ from the vegetable world. M. Pasteur's investigations as to the cholera of fowls, and the influence upon it of repeated inoculations, attenuating and mitigating the virus, are of especial interest as shedding light on the causes of the specific fevers. Pasteur has proved that the morbid principle of chicken cholera is a microphyte, belonging to the class micrococcus, and that cultures of this micrococcus, if in contact with pure air, decreased its potency. A similar line of investigation has determined the bacterium of splenic fevers, a disease which in one year destroyed more than 300,000 sheep in France. It seems pretty clear from experiments that a cultivated virus may be obtained, which by inoculation may produce the disease in a mild form, and at the same time, like vaccination for small-pox, affords immunity from subsequent attacks of the graver form; and Pasteur's inoculations the past year seemed to have been crowned with signal success. These researches are of great suggestive value regarding the pathology of contagion. It is not, perhaps, too much to expect that the time will come when we shall know the causes of these specific fevers, and by carefully conducted processes of inoculation, be able to stamp them out.†

*For more illustrations of the disappointing results of experimentation on animals, vidè Vulpian, "*Maladies du System Nerveux*," and Claude Bernard, "*Pathologie Experimentale*," also Dujardin-Beaumetz "*Clinique Thérapeutique*," Tome I. Leyon I.

†Cohn has recently claimed to have discovered the *micrococcus diphtheriticus*, and Artel has inoculated animals with this *microbe* and in every instance determined diphtheria. According to this experimenter these microbes penetrate the epitheliums then pass through the walls of the blood-vessels and lymphatics, and give rise to septicæmic poisoning.

Klebs has the past year laid claim to the discovery of the microbe of typhoid fever (the bacillus typhosus). Koch, of Berlin, has made seven successive cultures of the bacillus tuberculosis, inoculated animals with the results of these cultures, and produced tuberculosis of the lungs and other organs.—Vidè *Lancet*, October, 1882. P. 247. (Am. Ed.)

With regard to chronic diseases, we cannot speak so hopefully. Much of disease that shortens life is chronic degeneration of important tissues and organs. It will be one of the problems of the future how to retard the advent of these degenerations. The art of the future like the art of the present will be powerless to repair a damaged artery or a leaky heart-valve.

An intelligent appreciation of the laws of hygiene, of which we are learning more and more every day, and of the constancy of the conditions which produce disease, may enable the physician of the future to be the physiological monitor and guide of his constituency, and thus promote the health and longevity of society. Debilitating vices must tend to disappear as society becomes better adjusted to the conditions of well-being and reasoning and reasonable men sees that the pleasure does not pay which is bought by pain and disease. With the advance in the moral tone of communities, toward which evolution, I believe, is tending, certain communicable diseases, now too fashionable, will become more and more infrequent.

But in the wear and tear and fret and computation of modern life, where muscular development goes for so little, and brain development for so much, what is going to be done for the prevention and arrest of nervous diseases? Is the future American race to be neuro pathic like the present, or even more so; breaking down under the multiplicity and complexity of its acquisitions and responsibilities? If so, good health will become a luxury which the professional man, and the eager man of business cannot afford; confined to an aristocracy of good livers, who having ample means, and being freed from harrassing cares, having nothing to do but cultivate the *mens sana in corpore sano*, live virtuously and happily!

Doubtless many of the great problems of life and disease will continue to baffle the scientific worker; there is no law so inexorable as that which consigns us all sooner or later to darkness and the shroud! The aphorism of Hippocrates will always be true—"Vita brevis, ars longa, experientia fallax, judicium difficile.

SELECTED PAPERS.

PATHOLOGY THE BASIS OF EVERY RATIONAL SYSTEM OF THERAPEUTICS.

By J. HUGHLINGS-JACKSON, M.D., F.R.S.

Pathology is the basis of every rational system of therapeutics. That, possibly, the greater part of our most effectual treatment is at present empirical I would not deny, but that therapeutics will become rational is what we all hope. To those who are quietly and laboriously working at what may, superficially looked on, seem to be obscure pathological problems, already advances in diagnosis and rational therapeutics will be chiefly owing. It is evident that, for rational therapeutics, we must know what there is to be treated. No man in our profession deserves greater credit than the pathologist—including, of course, the clinical pathologist, and never forgetting the medical officer of health. The medical officer of health is the pathologist of the Social Organism, and deserves the highest social recognition. Speaking more narrowly, tacitly assuming the obvious qualifications, the best, practitioner, perhaps not the most confident one, is he who has carefully made most post-mortem examinations. I do not mean him who stops here, who stops in a stage which is rather to be called one of morbid anatomy than of pathology. But a man must begin here—must begin here to learn for himself, at any rate. The best knowledge for practice is what a man gets for himself. The only way of being thoroughly practical is to face the facts, to get verification or disproof of our opinions. A post-mortem examination never flatters us. If, for an example, we diagnose tumor of the cerebellum during the life of a patient, we may, post-mortem, find one in the anterior cerebral lobe. Such a rap on the knuckles is good for us. It makes us less confident, and teaches us to be more careful. A post-mortem examination may tell us that we have been treating a patient with useless, perhaps with injurious, drugs.

Every medical man has some system of pathology. But there are systems and systems. Besides scientific pathology there is a crude pathology, and there is, unfortunately, a 'metaphysical' pathology. We have long heard that old maids' husbands are always

well behaved; and, on the same principle, the pathology of those who do not make post-mortem examinations is often confident and definite. But the really important thing is to be accurate and precise, otherwise we confidently organise error in definite formulæ. A man's pathology may be too definite, in the wrong way, because he has not worked for himself at pathology. It may only be superficially and verbally definite, and really crude. He who has made many post-mortem examinations is not so metaphysical in his explanations of the pathology of some of those cases of disease of which there is no known morbid anatomy. In looking carefully for himself into the coarsely concrete, a realistic habit of mind is produced in a person, and thus he avoids verbal explanations of those most difficult of cases which are without known morbid anatomy—of those, for example, commonly called the Neuroses. To my young hearers I say, always endeavor to obtain post-mortem examination. Unless you are in the habit of facing the facts, your diagnoses will be untrustworthy, and much of your therapeutics indefinite. If a man does not learn pathology when he is young, he is not likely to learn it properly later. Unless he has seen much for himself, he will not practically realize the researches of others, nor be able to judge them. I would urge on young medical men the formation of clubs for making post-mortem examinations. Let me mention a slender personal experience. Many years ago, at York, a club of this sort was formed. It had no other organization than the agreement that each member should obtain an examination whenever possible, and ask the other members to attend. The history was stated by the person who, so to speak, owned the case, and then each of us saw what there was to be seen, and notes were taken. In this way it is not difficult to get a large experience of direct value for practice. This very simple method has, I suggest, some advantages over reading papers and more elaborate demonstrations, although these are necessary for organization of knowledge. Each learns something, however little, at first hand. And since the whole body, as well as the organ principally diseased, is searched through, it is in some way very much more teaching than the exhibition of interesting specimens of disease of isolated parts, valuable as that is. Some of the cases we had to deal with were "coroners' cases," some of them were cases of sudden or of

rapid death.* As early as possible in our career we should familiarize ourselves with cases of acute disease ; with emergency cases—with cases that will not wait. In some of those we saw, the history was, from the circumstances, imperfect. I do not think that this was altogether a bad thing, for we are called on to give legal evidence in such cases. To take one example. We may be asked to say what caused the death of a prostitute who, when last seen alive, was drunk, and who was found dead in a gutter with a bruise on the head, and about whom there was a doubtful history of a fit. Reasonable or not reasonable, we have to go into the witness-box, and say whether we think a patient died of drink, of poison, or of injury, or of disease, or that we do not know which he died of. In some of the cases we dealt with, the patients, if I may use the word, were seen when dead. When called to a dead person the ordinary medical difficulties are over, but very often great responsibilities of other kinds begin.

Pathology, is, of course, now well taught in hospitals. But I am urging that a man should go on learning pathology for himself—go on being a student as long as possible. Most of the work on pathology will be done by those who have large and special opportunities. Scientifically I am a democrat, and should like every one to be a pathologist for himself, so far as possible. Many a man learns quickly, and is very zealous, when a student ; he is, apparently, a man of promise, and then stops short and ceases to improve. Every man should be original. He may make no discoveries ; that is to a great extent a matter of chance. I mean that he should think for himself. If he does not himself make post-mortem examinations, he will have no trustworthy materials for such thinking on cases of living people. It is one thing to possess knowledge, and quite another thing to be possessed by that of other people. Besides, in private practice are seen some kinds of cases we do not sufficiently often see in hospitals. Some of the most useful cases I have seen have been in the private practice of my friends, although I have had a large field for investigation in hospital.

*I mention with much gratitude the help I had in this, nearly my earliest pathological work, from Dr. Shann, and Mr. S. W. North, of York. I learned many things of inestimable value to me, and especially as to cases of emergency.

Besides, in private practice, work is done under responsibility. Whilst studying at schools this excellent discipline is not nearly so great. There is nothing like responsibility for sharpening the wits; and post mortem examinations will prevent our being too sharp. Coroners' cases are important, not only for the sake of knowledge, but for discipline. A man has to bring his thoughts quickly to a focus. A collection of good reports on these cases would be very valuable for many practical purposes. I do not suppose that our editor has any space to spare, or I would suggest a department in the *Journal* for brief reports of coroners' cases.

Many post-mortem examinations are necessary for passing through a kind of inversion of our knowledge—from the systematic to the clinical. Systematic medicine assumes the post-mortem examination, and goes back to the symptoms; clinical medicine begins with the symptoms, and looks towards the morbid anatomy and pathology. The latter is, of course, infinitely the more difficult.

A man who has learned properly the symptoms of cerebral hemorrhage, those of uræmia, those of epilepsy, etc., finds the problem turned upside down when he comes to the bedside. These several kinds of cases look very much alike at the bedside. The question at the bedside is not such as "Give me the symptoms of cerebral hemorrhage, of uræmia," etc. That is going from the necropsy back to the symptoms. The question at the bedside is, "Here is a man in a fit—what is the matter with him?" That is looking from the symptoms to or towards the necropsy. No one is ready to answer the latter question, even plausibly, unless he has seen or made many post-mortem examinations. For at the bed-side a medical man has to be original, has to think for himself.

The process of inversion is not altogether pleasant. Indeed, a man who begins with a good systematic knowledge will probably find himself confused during the process of inversion. When, after looking from the necropsy back to the patient, he begins to look from the patient to the necropsy, and sees, for example, a patient who died "with all the symptoms of cerebral hemorrhage," he is taken aback when at the post-mortem examination he finds nothing. Let him persevere, and all will come right in time, or much clearer. Nevertheless, I would grant that, if a man wishes

to be thoroughly comfortable] in his diagnoses, he should never make a post-mortem examination.

A practitioner must not be a pathologist only, although unless he be a pathologist he cannot be a good practitioner. Division of labor, strictly or figuratively, is the law of everything whatever. Some of us work chiefly at physiology, some of us at pathology, and some of us at clinical medicine. But to be a good practitioner, a man must know much of all three ; and most of us now-a-days carry on the three lines of investigation. Every case is a departure from healthy states, and no one is fitted to begin the scientific study of diseased persons unless he knows much of the anatomy and physiology of healthy people. To a great extent, diseases are, metaphorically speaking, experiments, anatomical and physiological, on the human body. If it be not profane to say so, I would suggest that anatomists and physiologists might have more recourse to these "experiments." Charcot, in doing the best kind of pathological work, has, I should suppose, done as much for the anatomy and physiology of the spinal cord as any one living. He is clinical all round. The three things make up the clinical problem. I do not mean that we have simply to draw incidentally on our anatomical and physiological knowledge when we see a patient, but that anatomy and physiology are integral parts of every case we have to do with.

When we stand at the bedside of a patient, when we come close to our clinical work, there is before us an anatomical, a physiological, and a pathological problem. A great part of our clinical knowledge of cases is really nothing more than anatomical and physiological knowledge. The word disease is too vague ; it is used in three senses, each of which should be individualized. Since I am about to speak of cases of disease, it is not needful to add, were it correct to do so, the adjective morbid to the terms anatomy and physiology. I can best illustrate by diseases of the nervous system.

In each case there is :—1. Alteration of structure of some organ : here is an anatomical problem. 2. There is alteration in the proper functional activity of that organ ; here is a physiological problem. 3. There is a change in nutrition of tissues of that organ ; here is a pathological problem. In many cases we cannot

carry out this three-fold scheme. But we should attempt it in every one, in order that we may realize vividly what it is we do *not* know. There is a wider pathology than abnormal nutritive changes in one organ. There is not only the organ diseased or most diseased, there is also the rest of the patient to whom that organ belongs or did belong. I say, "or did belong," because sometimes part of an organ is annihilated. No clinically-minded man ever forgets the wider pathology. We no longer believe that a patient is "attacked by disease," although we still use that expression, the metaphysic having long since died out of it. It would be a better metaphor to say that the patient breeds the local disease himself, or that it is has grown out of the whole of him; or better still to say, of many cases, that a certain part of a universally unsound system has fallen to pieces. So we examine our patient all over; we try to get to know as much as we can of the pathology of all important organs of the living patient.

Even yet our pathology is not wide enough. We must not consider the patient himself as more than a detached unit of his family; we have to note the tendencies he inherits, as well as to examine him to see how they are particular evidenced in one branch or twig of a family tree.

If we take a case of loss of speech, the threefold distinction in clinical investigation can be easily illustrated. To locate the lesion is nothing other than an anatomical conclusion. To ascertain that it has destroyed speech, that it has left the patient capable of understanding what is said to him, etc., is a physiological (and psychological) investigation, and with its mode of production. Nearly all that has been written on aphasia is anatomical, physiological, and psychological disquisition.

To take a still more simple case in illustration. A man has hemiplegia. To think of the case as one of paralysis only is like the habit of thought of old-fashioned zoologists, who spoke of animals as if they had nothing particular inside them, or, as Forbes said, as if they were skins stuffed with straw. We have three very different things to do, each easily done, in most cases of this kind. From noting the region affected—face, tongue, arm, leg, etc.—we conclude that there is a lesion of the opposite corpus striatum. Now, this is only anatomical knowledge. Speaking figuratively, it

is only an experiment made by disease on an organ. To locate disease is an admirable thing, but localization is not the most important clinical thing. If we stop in this stage we know nothing of any value for rational treatment of the patient; we may have some good empirical expedients. Next, observing that the region mentioned is paralyzed, we conclude that there is loss of function of some nerve elements—probably destruction of them. This—physiology—also is a knowledge by itself, of no avail for therapeutical purposes in such a case. But, lastly, by examining our patient all over—for now we have done for the time with his paralysis,—and from certain empirical evidence, not needing to be stated now, we conclude that loss of function of the organ is caused by cerebral hemorrhage, that a clot has smashed up part of the corpus striatum. This is not enough. There is yet the wider pathology. A patient looks on this illness as an accident; the pathologist never takes that view of it. We often get to know with certainty that the local pathological change is but a local manifestation of a slowly progressing wide state of degeneration; that the man is rotten all over, and that he has one day broken down suddenly in a certain place; that he has chronic Bright's disease, atheromatous arteries, and an hypertrophied left ventricle. By considering these things and their interaction, we see that he has been long preparing for what seems to him to be only an accident. I submit that the process by which, in such a pathological state, he comes to have the local lesion—why an artery bursts is in chief part a physiological problem; there is a physiology of the organism made up of bad materials, as well as of the healthy organism. Further widening our pathological investigation, we may find that the patient is a twig of a gouty family tree.

Now, the pathology of lesions is the basis for treatment. It may be said that we can do nothing for the lesion in the case instanced. I grant that. The more we face the facts, that nerve-fibres are smashed up, and that a mass of blood is lying abroad in the *débris*, the less hopeful we feel. But the knowledge of what we cannot do is a gain for therapeutics. We do not try to do the impossible. We have much to do if we consider the patient's wider pathology. We take care of what is left of him, and do not treat what is lost of him. We must be realistic. A part of the patient is annihilated,

and to treat the local lesion is to treat a hole in the nervous system. If the clot be a very small one, the patient rapidly gets well, and then, obviously, the thing of real importance is to take stock of his general condition. In a case of slight and transient hemiplegia, it is good work to localize the lesion, but it is far better to examine the patient's heart, arteries and urine. A man who has one day's trifling incapacity in speech, or even only a trifling bleeding at the nose, is, if he have any chronic Bright's disease too, in a worse case—is less likely to live, I mean—than a patient completely and permanently hemiplegic from embolism. Although I have spoken of a patient's getting rid of the paralytic effects of small lesions, I did not say we cured him. It is perfectly certain that a person recovers from hemiplegia, although the local destruction is not, or is but partially, repaired. Why recovery, or what any one calls recovery, occurs in these cases, is an anatomico-physiological question.

Once more I urge that anatomy and physiology are integral parts of our clinical knowledge or directions of investigations of particular cases. In a large class of cases, where the functional affection is not negative, but the exact opposite—morbid exaltation of function—it is imperative to keep the physiology of the cases distinct from their pathology, or we shall not see what the really important medical problems are. If we take the case of epilepsy, we see that the distinction is of practical moment. A man is subject to epileptic fits. He is apparently well; then suddenly he is convulsed all over; next day he is apparently well again. Now, in this case, we cannot yet carry out the three-fold method, but we should attempt it. Our anatomical knowledge is defective; we have not yet got to know the organ in fault—the particular part, I mean. Thanks especially to Hitzig and Ferrier, we have got to know much of value as to localization in epileptiform seizures; but, as to epilepsy, nothing at all certain. But we feel sure of our physiology—that nerve-tissue somewhere is highly unstable, and that it occasionally liberates much energy, or, in other words, discharges excessively. The excessive movement outside is a certain sign of an excessive nervous discharge inside. And since, in nearly every patient, the fits are always the same in kind, however different in degree, we infer that a group of cells have become permanently abnormal, highly unstable, or metaphorically speaking, “explosive.” What I wish

to urge is, that this is only an abnormal physiological condition. If a healthy man moves a limb, there is a liberation of energy by some parts of his nervous system ; and if he be convulsed all over, there is only a great exaggeration of such a normal process. To repeat our anatomical knowledge of epilepsy is only vaguely inferential. Our pathological information is *nil*. We have only certainty as to the physiological process. If we did know exactly the locality of the abnormal physiological condition, we should still have the pathology to find ; but we should know where to search for it. The pathological question, the more important thing for medical men, is this: By what abnormality of nutrition is the local hyperphysiological condition produced ? Facts as to the causes of epilepsy are wide of the mark unless they bear on this one point. Enumeration of the so-called causes of epilepsy is valuable, but the facts gathered are only some materials towards ascertaining the direct pathological causation. The man who finds out by what pathological process it comes to pass that certain parts of the nervous system become so physiologically abnormal that they occasionally discharge excessively, will have done work which has not yet been done—the best medical work on epilepsy. Putting it somewhat too narrowly, the question is : In what tissue of nervous organs does the abnormal nutritive change begin ? It is often assumed, without evidence, that it begins in nervous tissue.

The illustration from the case of hemiplegia was, as to its pathology, very roughly handled. We must carefully distinguish betwixt direct and indirect pathology. The lesion on which, so to speak, symptoms directly hang, is often very indirectly produced. The distinction betwixt direct and indirect pathology is necessary for precision in prognosis and in therapeutics.

There are very few nervous diseases in the sense that the essential elements of nervous organs, cells and fibres, go wrong primarily ; in most cases they suffer indirectly. For precision in pathology, and, consequently, in therapeutics, we do not think of nervous organs as being made up solely of nervous elements. The ingredients of a nervous organ are not only nerve-cells and fibres, but also the subordinate elements, blood-vessels and connective-tissue. And nearly all diseases of the nervous system of which there is a known morbid anatomy are diseases beginning in the subordinate elements ;

the nervous tissues are innocent, but suffer. Most of them are not in a strict sense nervous diseases at all. Hence a study of pathology corrects specialism. To take but one case; the commonest nervous system is an arterial affair. Hemiplegia, in the vast majority of cases, is owing to blocking up of a diseased artery or to rupture of one. Nerve tissue is not here in fault, but suffers. It deliquesces (as in softening), or is smashed up by irruption of blood. A man's nerve tissue does not begin to soften; it is often locally starved because its arterial supply is cut off—it is boycotted. If a man can take care of his arteries, he need have but little fear of hemiplegia and apoplexy. His nervous tissue will take care of themselves. If we could conceive a man so badly educated and so curiously minded that he knew nervous symptoms well, and nothing else, he would, if he made post-mortem examinations, become despecialized. He would find that he must start anew by studying cardiac, arterial, and renal diseases, syphilis, gout, rheumatism and so forth. Out of that new study he would get a reasonable basis for prognosis, and for the care of his patients. In a word, he would find that the pathology of most nervous diseases was indirect, and would cease to take a merely nervous view of them.

The best illustration of indirectness of pathology is given by that most important clinical group of cases, syphilitic affections of the nervous system. Without denying that syphilis may primarily affect nerve-tissue, what I only feel sure of is that it begins in subordinate tissues of nervous organs. The most nearly direct method of "attack," if I may use the word, is when a nerve-trunk is the seat of syphilitic disease; but in other cases the process is indirect. Thus the commonest kind of so-called syphilitic hemiplegia depends directly on local softening of the brain," not syphilis. The order is this: a man has a chancre; he gets rid of it, and of subsequent secondary symptoms. Months or years later, when apparently well, except perhaps for headache, some of his cerebral arteries are becoming syphilitically diseased, and then one unfortunate day a branch is blocked up, and he becomes hemiplegic. A very little change happens that day, although the consequences are grave; but for that little seeming accident there has been long, slow, insidious preparation. The syphilis is slow, the thrombosis is rapid. This case for treatment so far as the hemiplegia is concerned, is as

certainly one of local softening of the brain as hemiplegia from ordinary embolism is. To call it syphilitic hemiplegia is all very well, but to think of the paralysis as being a direct result of syphilis is crude pathology.

Next as to therapeutics. Suppose the patient gets rapidly well under iodide, and is now well again. No one denies this sequence. But, then, it so happens that there is another fact. It is quite certain that some hemiplegic patients get well without any drugs whatever. Whether a patient recovers from hemiplegia or not is a question of the size of the lesion. Those who make post-mortem examinations do not invoke shrinking or disintegration of the plug, or reëstablishment of collateral circulation, because they know that they find holes in the motor tracts of patients who have recovered from hemiplegia—the patients got well, were not cured. So that the hypothesis that the iodide cured the patient is not warranted by facts. Of course, we should treat the patient for syphilis, for, besides more obvious reasons, there is the strongest presumption that other cerebral arteries are diseased, and we may rid them of disease. If the paralysis be transitory, we go on treating the patient for syphilis, to prevent further paralysis. Everybody has a well-grounded faith in treatment of syphilis—or of its recent effects, at any rate. But I submit that if we could sweep away every vestige of syphilis by drugs, we should not, by so doing, cure the hemiplegia. It is easy to let ignorance stand to us for knowledge. We may believe we have cured our patient by drugs, because we do not know that hemiplegia will pass off without the use of any. But confidence is not always a sign of sagacity, but may result because we have not made numerous post-mortem examinations. In the case instanced, there is a plug in the vessel, and consequent local softening. For drugs to do anything towards ridding the patient of his hemiplegia, they must help to get out the plug and to restore starved nerve-tissue. Now, as a matter of fact, there is in these cases actual destruction of nerve-tissues. If we could look into the man's head we should see that a part of his brain is boycotted. We cannot get at it by drugs.

There is another kind of so-called syphilitic hemiplegia, essentially unlike the one already mentioned. The facts are that a man, the subject of syphilis, has pain in the head for weeks—the best time

for anti syphilitic treatment—significant of the formation of a cortical gumma. One day he has a convulsion, very often beginning unilaterally, and after it he is temporarily hemiplegic (sometimes monoplegic). The process by which the hemiplegia results from syphilis is a doubly indirect one. No one supposes that the gumma discharges; but that nerve cells round about it do. Thus, the stages are—(1) formation of a gumma; next (2) induction of instability by nerve cells, exactly as by a glioma, possibly by a sort of encephalitis; then (3) sudden excessive discharge; and (4) consequent hemiplegia.

Syphilitic paralysis of a cranial nerve, and the two kinds of syphilitic hemiplegia, are utterly different in the pathological changes on which the symptoms directly depend, although syphilis is respectively the direct, the indirect, and the doubly indirect cause of them.

There is a class of cases of nervous disease—the neuroses—of which the pathology is unknown: chorea, epilepsy, insanity, neuralgia. In these diseases, little or nothing definite has, according to most authorities, been found post-mortem; and, curiously, the fact that nothing is found used to be considered proof that there was nothing to find. The statement that we do not know what there is in a particular disease, is sometimes taken to be equivalent to saying that there is nothing. We call the neuroses functional affections—a term, I submit, which should be kept for physiology. There can be no alteration of function without some material change. A man who does not make post-mortem examinations may look on slight and transitory local paralysis as not depending on a material change, but if he did make such examinations he would not hold that hypothesis. I repeat that we do not know the pathology of the neuroses. But now comes the curious point. We speak most confidently of the inheritance, interchangeability, and fundamental community of pathological character of those very diseases of which the ascertained morbid anatomy is nothing, or next to nothing. Thus there is assumed to be a community of nature betwixt epilepsy and insanity. It may be so. For my part, I have not heard of any facts tending to prove anything of the kind. The evidence adduced goes only to prove that many epileptics become insane. The neuroses are spoken of confidently as being nervous

diseases in the sense that the pathological changes begin in nervous tissues. Where is the proof when we know nothing of their pathology? There is *no* proof. Again, pathology prevents our ideas on this subject being out of focus. Suppose a man has epilepsy, or paralysis, or chorea, and suppose that all his relations had the nervous symptom or disease, hemiplegia; is there any proof that he inherits a tendency to a nervous affection—that his epilepsy is owing to his nervous tissues *beginning* to go wrong? Not the smallest; because the hemiplegia is owing to arterial changes. If the family history in such a case tends to prove anything, it tends to show that the pathology of the patient's epilepsy is primarily arterial, and only secondarily nervous.

There is a metaphysical pathology. The cases are those on which we either do not obtain post-mortem examination, or find nothing post-mortem. It is rather difficult to define metaphysics. Some people call psychology metaphysics; some people call anything very difficult and complex about mind and body metaphysics; some use it merely as a term of abuse. It is, I think, a great pity that some metaphysics is not taught to students before they enter the profession. This may seem a strange remark, but the reason for making it is not to urge that they should be metaphysical, but for the diametrically opposite reason that they should be less metaphysical. It is a mistake to suppose that those who write books on metaphysics are the most metaphysical. They have, at any rate, the knowledge that they are dealing with metaphysics.

A good deal under the guise of practicality is pure metaphysics. There was once a man who could conceive an abstract Lord Mayor. The conception he had, so he averred, had neither head, arms, legs, nor corpulence; it was not an image of any particular Lord Mayor, nor a fusion of several, but an abstract Lord Mayor. Well, we think this metaphysician was too confident in his powers of conception. But do we not imagine ourselves capable of the same kind of marvellous feats? Let us look at a case of aphasia. A man does not speak, and yet can understand what we say to him, and can think—on ordinary things at any rate. These are the facts; no one disputes them. Now comes the metaphysician, who proffers the explanation that the patient has lost words, but retains the memory or ideas of words, which latter, somehow, are not words. Now, what

is an idea of a word which is not a word? It is, like the abstract Lord Mayor, simply nothing at all.

We should deal with the difficult and the complex in as realistic a manner as we do the simple. The hysterical patient, who is said to have paralysis of the will, has some material change. What it is we do not know; and we never shall know, if we be content with metaphysical explanations, which in one sense explain everything, but really explain nothing. I have long expressed the opinion that, for the scientific study of diseases, we should regard them as examples of Dissolution—using this term as the opposite of Evolution. In this way we shall avoid the errors of confusing the physical, and shall steer clear of metaphysical explanations.—*Medical Times and Gazette*.

ACTION ON THE INTESTINAL JUICES.

Dr. Charles Dana, Professor of Physiology in the New York Women's Medical College, after narrating experiments which he performed on four dogs and one horse, observes (*Philadelphia Med. News*, July 15): "They indicate that the intestinal juice digests albuminous matter and turns hydrated starch into sugar. This view agrees with the results of the majority of recent experimenters. The evidence regarding the action of the juice on fats is negative, but most experiments show that it has no action, and mine, if anything, confirm that view. * * * In conclusion then, it seems very well established that the intestinal juice in some animals supplements the action of pepsin and trypsin on proteids, and turns hydrated starch to sugar. Its rôle is probably not a large one as regards digestion, but it may in some way assist absorption; for the intestine in flesh-eaters is preëminently an absorptive organ. Intestinal dyspepsia is, I believe, almost always due either to the stomach throwing insufficiently digested food into the intestines, or to atrophy of the muscular wall and defective absorption. The trouble with regard to the intestine is, in my opinion, more with muscle and absorption than with secretion. The stomach may be at the bottom of the disturbance all the time unloading itself with indecent haste, or with its work half done.—*Med. Times and Gaz.*

SPONTANEOUS COW-POX.

Dr. José R. De Argumosa describes a case of spontaneous cow-pox, observed by him in the spring of the present year. A servant called his attention to the cow, saying that she was uneasy when milked and that he had noticed some pimples on her udder. The papules were a little raised, whitish in color, and surrounded with a very slightly inflamed areola. When a crust was formed he removed it and inoculated a heifer in fourteen places on the udder and belly. On the fourteenth day there were six well-formed papules. With the lymph from one of these the author then vaccinated a boy, fourteen years of age. On the sixth day there was slight inflammation, and on the eighth umbilical papules appeared. The following day they were more marked and the boy complained of headache. The axillary glands were swollen and very painful. The vesicles were of enormous size, surrounded by a large erysipelatous areola, and contained a quantity of transparent lymph. The temperature was 38.4° C. The symptoms increased alarmingly, and on the eleventh day the temperature rose to a maximum of 40.1° C. All the symptoms, however, gradually subsided, and in a few days the boy was perfectly well. Seventy-seven persons were afterward vaccinated, and the observer summarizes the results as follows: The period of incubation was larger than is ordinarily the case. The vesicles were larger and surrounded by a much wider areola, and the fever was greater in intensity and duration. The cow in whom the disease was discovered had been separated from other animals for several months, and as small-pox was prevalent in the neighborhood at the time, the author believes that the disease was acquired from man.—*Revista de Medicina y Cirugía Prácticas*, July 7, 1882.—*New York Medical Record*.


AMERICAN PUBLIC HEALTH ASSOCIATION meets in Indianapolis on the 17th of October and continuing in session four days. The Sanitary Council of the Mississippi Valley also meets same time and place.

EDITORIAL.

NORTH CAROLINA MEDICAL JOURNAL.

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THOMAS F. WOOD, M.D., Wilmington, N. C., Editor.

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A SUGGESTION FOR THE MANAGERS OF STATE INSANE ASYLUMS.

NC Med J. (GS) 10:226-227, 740 of 1882

The present lack of system in the selection of Superintendents for the Asylums for the insane in this State, cannot fail eventually in damaging the efficiency of these institutions. There are now two asylums in the State, and the third will, before many months, be ready for occupancy. There is no more sacred trust in the State than the care of these poor afflicted people, and no position requires the possession of higher special qualifications. We do not intend to discuss the old methods of selection of superintendents, or suggest any innovations that would materially disturb the present management, for as far as we know the professional management of these institutions has met the approval of those entrusted with their direction, and has proven satisfactory to the relatives and friends of the inmates; but this good result has been only in spite of the faulty method.

Several times in the history of our institutions for the insane it

has been a serious question, who can be found competent to fill these places? and the directors have been obliged to select gentlemen from the medical profession, who seemed to them to have the desired qualifications. So far, with one exception, there was no knowledge on the part of the directors that their appointees had any special training for these places.

Perhaps there is no present way out of this difficulty, but there is a plan for the future, which we have before mentioned, and we trust that the proper officials will consider our suggestion thoughtfully.

A line of well trained officers could be kept up in unbroken succession, by selecting well educated and well qualified young medical men as junior assistants. The method of selection should be by competitive examination in part, as regards scientific qualifications, but also, more particularly, as to the personal and moral fitness of the applicant. We think that all other methods of selection of these assistants, would be open to possible unfortunate social or political influence. These assistants should receive an adequate salary and be provided with all the facilities to learn, and their promotion, and even their incumbency dependent upon the progress they make. After this plan has been in operation for a sufficient length of time, it would probably then be expedient to confine the line of promotion to the Asylum staff, if possible.

We do not claim originality for these ideas, they were suggested to the executive before the war, but were probably not carried into effect by the supervision of the war. Some such system deserves the careful attention of the State, more particularly as our State's interest in the case of the insane is so largely extending.

PROPOSED MEETING OF COUNTY SUPERINTENDENTS OF HEALTH.

We have received a suggestion from one of the earliest and most active promoters of our State health organizations, which we most heartily endorse. It is this:

That a meeting of all the County Superintendents and the

State Board of Health, be held in Raleigh during the session of the Legislature in the coming year, and there organize and discuss the best means for carrying on the work already begun.

Such a meeting, we conceive, could have an excellent influence, both in imparting renewed zeal to the gentlemen who for so long a time have worked under adverse circumstances to bring something out of the task allotted to them ; and also to impress the members of the Legislature with the importance of the work.

After the experience of several years, it is very sure that a conference of this sort, would bring out some valuable information, which would serve to energize the work, and such improvements of the law could be effected as to meet the approval of the Legislature.

We do not share the doubtful opinion expressed as to the future of the State Board of Health. We believe if a properly concerted effort, first, to indoctrinate the legislator with our aims and objects before he gets to Raleigh, and, afterwards, to see that a clear and exhaustive argument is presented to the legislative committees, we can make very important headway, if we cannot get such aid as the magnitude of the work demands.

It is time we were taking decisive action, and the State Board of Health stands ready to second any effort inaugurated to advance the interests we are considering.

MS. D. (55.) 10: 228, 24 Oct 1882

THE TOMATO AS A DIETARY AND MEDICINE.

In an article in the *Australian Medical Journal* (February) it is observed that while the Americans attach an inordinate value to the alterative powers of this plant, with ourselves it is too little thought of. It has been found to be an effectual germicide when brought into the vicinity of plants suffering from low organisms, and it is believed to be efficacious as a preventive of typhoid fever, and useful to sailors and others liable to scorbutus. The tincture of tomato is now being experimented with ; and eaten cooked with hot meats, or as a salad after cold ones, it is found to be a pleasant and useful article of diet. Caution, however, should be used in the amount taken, two or three tomatoes a day sufficing.—*London Medical Times and Gazette*.

REVIEWS AND BOOK NOTICES.

ESSENTIALS OF VACCINATION ; A COMPILATION OF FACTS RELATING TO VACCINE INOCULATION AND ITS INFLUENCE IN THE PREVENTION OF SMALL-POX. By W. A. HARDAWAY, M.D. Chicago : Jansen, McClurg & Company. 1882. Pp. 144.

It is a little singular that no work on vaccination has been published in the United States, at least no work purporting to be a general treatise on this subject, since Scofield's little volume made its appearance in 1810. Previous to this, Dr. Benjamin Waterhouse, (1800 and 1802) and a reprint of Jenner's "Inquiry," 1802, Dr. John Redmond Coxe's work, (1802) had been issued. Two of these works, though, were little more than abstracts from the works of the earlier English teachers—Jenner, Woodville, Pearson, Ring, Plumbe, Bryce and others,—works that were at that time very little accessible to physicians in the United States. Such reliance upon English writers was not peculiar to that period, for it is from England that our late works on practice of medicine have drawn their statements, apparently without questioning, and certainly without revision.

We had for some time wondered why the American profession could not have its hand-book of vaccination practice, as full and complete as the well-known volume of Seaton ; or why some of our dermatological authors, now so eminent, had never cultivated this department of their specialty. The appearance of this work, therefore, was examined with especial interest, feeling as we did that a work on this important subject was much needed. We will give our readers such an analysis of its contents as we think it deserves.

The first chapter opens with an evolution of inoculation. In 1714 a Greek physician, who had studied in England and settled in Constantinople, addressed a letter to Dr. Woodward, which contained a full account of the practice of inoculation, as then existing. This letter appears to have had no other effect than to have excited a short lived curiosity. (Plumbe on Vaccination, p. 36.) In 1717, Lady Mary Wortley Montague, had her son inoculated in Constantinople, and the same year sent her famous letter to London with an account of the procedure and the value of the practice. It

was not until 1722 (and not 1717 as implied by Dr. H.), nine years after the Greek (Dr. Timoni's) letter had been inserted in the *Philosophical Transactions*, that inoculation had ever been performed in Great Britain. (Plumbe, op. cit., p. 36.) "Inoculation was first practiced in Boston by Dr. Boylstone in 1720."* Or according to Thacher's *American Medical Biography*,† "Inoculation was first advocated in this country by the Rev. Cotton Mather and first practiced at his suggestion by Dr. Zabdiel Boylston, on the 27th of June, 1721, in Boston, upon his only son, about 13 years of age, and two negro servants, and was entirely successful." Furthermore, Dr. Waterhouse says :‡ "The people of New England, particularly of Boston, set a noble example to their elder brethren of old England, in adopting the Turkish practice of inoculation for the small-pox, in 1721." So that taking the latter date, we find that inoculation was actually practiced in the United States one year before its adoption in Great Britain. We think this narrative is sufficiently authentic to have found a place in a work on vaccination by an American author.

The narrative of Jenner's discovery and its progress in England is followed, by the introduction of vaccination into America. Here our author falls into an error. He says: "Vaccination was introduced into America by Dr. Waterhouse, of Cambridge, in 1796, the year of Jenner's first vaccine inoculation." (P. 14.) The truth is that Dr. Waterhouse received a copy of Jenner's "Inquiry," from Dr. Lettsom, in 1799, and that he gave his first account of vaccination practice in the *Columbian Centinel*, (March 12th, 1799,) in an article entitled "Something Curious in Medical Practice."§ It was in the year 1800, (July 8th) that he vaccinated his son, Daniel Oliver Waterhouse, who, he says, "was the first person inoculated for the kine-pock in the Western hemisphere";

*Some Account of the Success of Inoculation for the Small-Pox in England and America, together with Plain Instructions by which any person may be enabled to perform the Operation, and conduct the Patient through the Distemper. London: Strahan, 1759. B. Franklin, of Philadelphia.

†Gregory on Fevers.

‡"A Prospect for Exterminating the Small-Pox" etc. Cambridge, 1800. P. 36.

§See "A Prospect of Exterminating Small Pox; Being the History of Variolæ Vaccinæ, or Kine Pox," &c., &c. By Benjamin Waterhouse, M.D. Cambridge Press. William Hilliard. 1802. Pp. 40. Also "Jefferson as a Vaccinator." By H. A. Martin. NORTH CAROLINA MEDICAL JOURNAL, January, 1881.

and "Mr. Eliphalet Williams, merchant, the first person inoculated in Boston, August 19th, 1800."*

These are small items, but as they mark the struggling infancy of the practice in America, they should be accurate, even if the author has no room to be elaborate in his history.

The Second Chapter is devoted to Variola in Animals, and immediately under this head the author describes cow-pox, horse-pox, and sheep-pox, as though there was no question that variola and vaccinia are distinct diseases. In the succeeding chapter he discusses the Nature of Vaccinia, following the easy lead of Seaton, in assuming the identity of variola and vaccinia. As this question has been so recently considered in our pages, (*JOURNAL*, January, 1882) we need not enter as fully into an examination of the evidence offered by Dr. Hardaway, to sustain his opinion.

We are at a loss to understand how the experiments by Pasteur, of sheep inoculation, can be taken as a foundation for scientific analogy, when these experiments, hardly more than a year old, are far from being substantiated; still, not only Dr. Hardaway, but other authors recently, seem to take a firm stand upon it, as though Pasteur had demonstrated his proposition. But this only in passing on to other points.

Dr. Hardaway considers Mr. Badcock's experiments in the elaboration of vaccine from a cow by inserting small-pox virus as "the most remarkable and convincing experiments." We think that if our author would carefully read Badcock's little pamphlet, in the light of our recent knowledge of virus cultivation, he would hardly partake of his present enthusiasm, the key-note of which was struck by Seaton in his *Hand-Book*. As famous a writer as Dr. George Gregory, in his standard work on the "Eruptive Fevers," published in 1843, seems not think Badcock's experiments claimed to have done in 1840,† as worthy of discussion, although he notices the experiments done by Ceely without being able to admit the identity of the two diseases.‡

*"A Prospect of Exterminating Small-Pox." Part II. Cambridge, 1802. Pp. 139.

†A Detail of Experiments Confirming the power of Cow Pox to Protect the Constitution from a subsequent attack of Small Pox, by proving the identity of the two diseases. By John Badcock, Chemist. Brighton, 1845.

‡Gregory on Eruptive Fevers. Am. Edition, p. 266-67.

"It is, therefore, assumed that Chauveau's experiments produced nothing but local papules, and that when recourse was had to them for material for experimental purposes, the operator merely collected the same variolous virus that had been inserted a few days before," and so following his line of argument, he adopts the conclusion of Seaton, and demolishes the work of the famous Lyons Commission, a Commission composed of masters in the department of veterinary practice. But, per contra, let us see how differently the investigations of the Lyons Committee strike a teacher removed from the atmosphere of English dogmatism. Trousseau, the author referred to says :* "The learned reporter," (Chauveau, professor in the Veterinary School of Lyons) "has first shown that small-pox can be perfectly well communicated to the bovine species by inoculation, to which species it stands in the same relation as vaccinia to man ; that is to say, that when an ox is inoculated with small-pox it is thereby made proof against cow-pox, just as a vaccinated man is proof against small-pox. But a much more important practical point is, that *"small-pox in its passage through the system of a cow is not transformed into vaccinia ; it remains small-pox, and returns to the original state of small-pox when reintroduced into the human species."* * * * Hence it follows that small-pox and cow-pox, or horse-pox, are different diseases, and that when we vaccinate after the method of Thielé and Ceeley we, in reality, inoculate small-pox."

From nothing that we have read or that we have observed, therefore, can we agree with our author about the identity of the diseases in question, and we are very far from sharing in his hopeful opinion that "The time may even arrive when the inoculation of attenuated variola virus will supersede altogether the use of vaccine lymph."†

We have taken issue on the question of identity not merely for the sake of discussion, but because the reiteration of the possibility of developing vaccinia on the cow, at will, has led to some harmful mistakes in practice.

*Lectures on Clinical Medicine. Vol. II. Pp. 118 and 119. English Edition

†Only within a few days we have the information that Dr. Voigt, of Hamburg, has published a detailed account of his successes in transmuting variola into vaccinia. The account is to be found in *Vierteljahrsschrift für öffentl. u. the Gesundheitspflege, Briv.,* H 3., and deserves an impartial and searching analysis.

The Symptoms and Causes of Vaccinia in the Human Subject forms the subject of the fourth chapter, and for a practical treatise as this purports to be, should be written concisely and accurately. Perhaps we expect too much, but nothing less than the care and precision of the earlier—Jennerian—authors, should be submitted to a profession which needs so much to be taught plainly the elements of vaccination.

In describing the structure of the vesicle, for instance, we are instructed in a foot-note that “the structure of the successive vaccinal lesions is the same as in variola.” This opinion is delivered with the confidence that it is a definitely settled matter; whereas, it cannot stand even the coarser tests of practice. One of the earliest things noticed by writers on cow-pox, was that in tapping a vaccine vesicle it could only be drained by making numerous minute incisions, the vesicle being divided by septa.* “In small-pox, immediately on opening the pustule, even by a small puncture, the whole of the contained fluid flows forth, and is easily obtained. Most of the earlier authors (Bryce and Pearson now particularly occur to us), were very careful to illustrate by colored drawings, the difference between the vesicles of the two diseases, day by day, and side by side, that they might not be mistaken for each other. As the question of comparative structure is not one of prime importance, we are surprised that our author should have touched upon it at all.

If the description of vaccinia in the human subject is intended as a standard, for the guidance of the reader, we must dissent from it in so many particulars, that we may pass it by, by pronouncing it entirely inadequate. It has none of the graphic clearness necessary, and the author finds room in this chapter to introduce Bryce’s Test,† entirely underrating its importance; and then adds a paragraph on “Vaccinia after Small-Pox,” and “Vaccinia Revived,” to further weaken the estimate we must place upon his description of the course of vaccinia.

*Practical Observations on the Inoculation of Cow-Pox, etc. By James Bryce. Edinburgh: 1802, p. 121.

†John Cross, in many respects the most reliable and most practical of the writers on Vaccination during the Jennerian period, adopted Bryce’s test with full confidence.

Such idle stories as the statement of Sir Thomas Watson, that vaccine remained dormant fourteen years, should be accepted in silence out of a respectful consideration for a teacher, who, in his prime, charmed three generations of medical students by his lectures on the practice of medicine; but when we come seriously to investigate the statement in the light of our present knowledge of animal contagium and animal inoculation, we can only say that younger and well trained workers, would hardly be willing to accept it even from Sir Thomas Watson. There is no doubt that vaccine remains dormant in some cases, and Bryce and others have recorded them retarded fourteen days, and we have seen many such examples, but the limit last mentioned is entirely within the bounds of a reasonable belief.

The abnormal modifications and complications are sketched very hurriedly, but we find much that is important, but one paragraph that we would consider quite out of place in such a work. We refer to the occurrence of suppurative inflammation of the middle ear after vaccination. This statement will hardly make much impression upon experienced vaccinators, and until it is better substantiated, only furnishes another argument to captious objectors to the practice. We were disappointed in not finding a more carefully prepared account of skin diseases occurring during the course of vaccination, as the author's experience must have put him in possession of much needed information. Especially, we would have been greatly interested in a more elaborate description of the red tubercles occurring so often at the site of vaccination. Moreover he might have inserted a useful amount of information on the aberration of vaccination, by consulting the "Researches upon Spurious Vaccination, etc., in the Confederate Army During the Recent American Civil War, 1861,-65," by Joseph Jones, M.D., and the paper on "Spurious Vaccination in the Confederate Army," by Dr. James Bolton. No similar investigations on such a scale have been attempted in any other country, but our author only mentions them in a second-hand quotation in a foot-note.

When our author comes to treat the merits of the different kinds of vaccine virus, he writes with more confidence, and apparently from a more thorough knowledge. He places vaccination with bovine virus in its proper light, and the chapter is full of excellent advice.

The Methods of Obtaining Humanized Virus should have been the most carefully written of all. We fear that those who relied alone upon Dr. Hardaway's teachings, would never know how often Jenner emphasized the instructions about taking virus. His famous letter to Waterhouse was frequently reprinted in publications current in the earlier part of the century :

“ I don't care what British Laws the Americans discard, so that they stick to this—*never to take the virus from a vaccine pustule for the purpose of inoculation, after the efflorescence is formed around it.* I would make this efflorescence the sacred Boundary over which the lancet should not pass.”

The cultivation of humanized vaccine crusts, in the hands of well-informed and habitually careful vaccinators, affords us a most excellent means of securing good virus. When it was recommended by Bryce, it was probably not popular in England, because of the great stress laid upon the “Golden Rule of Jenner.” But Dr. John Redmond Coxe, and other of the earlier vaccinators in the United States, shut off as they necessarily were by their remoteness from English sources of fresh lymph, made excellent use of cultivated crusts ; and, indeed, when we consider the difficulty of transporting active virus over the dreary distances travelled in the early days of the union, we do not see what plan better than this could have been devised. Bryce records with much enthusiasm in his “Practical Observations,” (1802) the excellent results from this form of virus in the hands of Dr. Coxe. The proper cultivation, selection and preservation of vaccine crusts, deserves to be studied with minute attention, as the very best means, next to that of the propagation of virus from heifer to heifer, and such an important resource, should, so far from being tabooed, be recorded definitely for the time of necessity, which it is not improbable may arise. We lay stress upon this point because we think the extreme to which the application of the germ theory has led many excellent writers, should not cause a panic against vaccine crusts, and many other old-time practices.

We agree with Dr. Hardaway that it is “dangerous” to use many of the vaccine crusts found “in commerce,” but as long as it is possible to get a perfectly typical and active vaccine crust, we do harm to the cause of vaccination to decry this form of vaccine. Let

us learn all we can of spurious and typical crusts, but let us use this knowledge in cultivating purer stocks, and not to condemn the practice.

The storing of fresh lymph on quills and ivory, is as old as vaccination, and is as Dr. Hardaway says, the best method. More particularly is it to be relied upon in the way originated by Dr. Martin, viz. : of storing the lymph on lancet-pointed ivory slips to be used once as vaccinators, and then thrown away.

We have dwelt longer on this volume than we intended. We trust the author will not consider our criticism as fault-finding. We have expressed our view with the desire that in his future editions he may consider whether it would be best to follow our suggestions. We congratulate him upon having produced a timely work, and if he succeeds in directing the attention of the profession in general, to a more serious consideration of the subject of vaccination, he will have rendered a very valuable service.

INDEX CATALOGUE OF THE LIBRARY OF THE SURGEON-GENERAL'S OFFICE UNITED STATES ARMY. Authors and Subjects. Vol. III. *Cholecystitis—Dzondi*. Washington : Government Printing Office, 1882. 4to. Pp. Pp. 1020.

It must be an immense relief to Dr. Billings, as each successive volume of this great work is put beyond the possibility of destruction by fire, in an elegantly printed volume. With this the third volume successfully completed, we are inclined to take it too much for granted that it will always progress favorably and smoothly to completion. But Congress is an uncertain body, and must be constantly reminded by the profession of the duty it owes in promoting the work so nobly begun.

The appearance of this volume also reminds us of the inappropriateness of the building now occupied by the Army Museum and the immense medical library of the Surgeon-General's Office. It is quite evident, that for lack of room, and because of the great risks from fire, that new quarters must be prepared for them. But more of this hereafter.

The three volumes of the Index Catalogue comprise as follows : Author Titles: Titles, 30,629 ; Volumes, 23,041 ; Pamphlets, 22,594. Subject Titles: Book titles, 29,122 ; Journal Articles, 100,760 ; Portraits, 4,355.

Nothing has done more to give American medicine a reputable position among the nations of the world, than the impetus which has radiated from the greatest medical library of modern times.

ON ASTHMA : ITS PATHOLOGY AND TREATMENT. By HENRY HYDE SALTER, M.D., F.R.S. First American Edition. New York : William Wood & Co., 56 and 58 LaFayette Place. 1882.

Dr. Salter, a great sufferer and finally a victim to asthma, writes with peculiar force, of this complex disease. His contributions on the subject have been many, and in them all he has shown a vast amount of careful study. His thorough analysis of the different forms of asthma, founded upon a thorough knowledge of the physiology of the subject, has thrown as much light on the subject as the description of the pathology of Bright's disease has thrown upon the various forms of dropsy.

It would have been a most useful appendix to the chapter on treatment of asthma, by the use of nitre paper, if a few formulæ had been given for the preparation of nitre powders now so extensively sold by dealers at an enormous price. These powders are very efficacious in many forms of asthma. They are variously composed, but the ingredients are chiefly fenugreek and stramonium seeds in coarse powder, with saltpetre and some resinous substance like shellac, to ensure the burning of the powder. These powders can be easily extemporized.

This volume we consider a serviceable edition to Wood's Library, especially to physicians who have not a copy of Reynold's Practice.

ELEMENTOS DE FILOSOFIA QUIMICA SEGUN LA TEORIA ATOMICA. POR VICINTE MARCAUS—MIEMBRO DE LA SOCIEDAD QUIMICA DE PARIS, PRECEDID DE UNA CARTA DE A. NAGUET, PROF. AGRÉGÉ, ETC.

ELEMENTS OF CHEMICAL PHILOSOPHY, BASED ON THE ATOMIC THEORY. By VINCEN TO MARCANA, Member of the Chemical Society of Paris, etc., etc. Caracas. 1881.

When an author of a book on Chemistry bases his work on the atomic theory he has a solid foundation on which to build, and to complete the superstructure it is only necessary for him to stick to his text.

The first chapter is devoted to a partial discussion of the various theories that have been successively upheld and abandoned. Especially well written are the chapters on Crystallization, Diffusion of Gases, Mechanical Theory of Heat and the Laws of Energy.

But it is in the domain of organic chemistry that all the powers of the chemist are taxed to make himself clearly understood, and Sr Marcano has succeeded most wonderfully in this.

It is to be regretted that the work is not written in French or English, these languages being much more universally read than Spanish, and this excellent little book would then reflect the credit upon the author that he deserves for so good a work. W. G. E.

THE PHYSICIAN HIMSELF AND WHAT HE SHOULD ADD TO HIS SCIENTIFIC ACQUIREMENTS. By D. W. CATHELL, M.D., &c, &c. Second Edition. Baltimore: Cushings & Bailey, 262 W. Baltimore Street. 1882.

The first edition of this unique volume was so soon exhausted that the author found it necessary to prepare a second. He has made many corrections of gross errors, the most conspicuous of which was his previous ungrammatical title. We are informed that a publisher could not be found for this book except at the author's risk, but it has proven to be one of the most popular of recent medical volumes.

It has been divided in chapters and otherwise improved, and we are sure it will be widely read. We commend it heartily to our readers

A PRACTICAL LABORATORY COURSE IN MEDICAL CHEMISTRY. By JOHN C. DRAPER, M.D., LL D. New York: William Wood & Company, 56 and 58 LaFayette Place. 1882. Pp. 70.

This is a handy book for the use of medical students in the laboratory, printed lengthwise of every other page. The first section includes Poisons, which heading is subdivided into Inorganic and Organic. The second section treats of Water, its Examination and Directions for its Purification. Section III treats of Animal Fluids, and Section IV of Sediments and Calculi. Prof. Draper has had long experience in teaching chemistry to medical students, and it will, doubtless, be well received by his classes.

THE MULTUM IN PARVO REFERENCE DOSE-BOOK. By C. HENRI LEONARD, M.A., M.D. (Price in paper 30 cents.)

This is not only a "dose book" as its name implies, but a memorandum book of instructions in obstetric and poisoning emergencies, with a fee-table and a pronouncing lexicon for author's names. The metric system receives rather more attention than its waning fortunes justify, but upon the whole it would be difficult to get more useful knowledge in such a compact form.

BISMUTH BREATH.—The garlicky odor so perceptible in the breath of persons who are taking bismuth will be perceptible in one case in ten, and in one case in a hundred the odor will be so distinct as to be detected some distance from the patient. Dr. Squibb (*Ephemeris* for September, 1882, p. 137 and 138) discusses the cause of this garlick odor, and sets aside the theory of its dependence upon the small quantity of arsenic probably present.

As some compounds of tellurium give a similar garlicky odor to even a marked degree as chemical compounds out of the body, the odor has been charged to tellurium in the bismuth. But tellurium has been repeatedly sought for in vain in preparations of bismuth which gave the odor, and there is no known record of tellurium when given yielding this odor to the breath.

The cause of this peculiar odor, therefore, needs further investigation.

THE LONDON ANTI-VACCINATORS.—We are sorry to see the *Therapeutic Gazette* from whose interesting pages we so often get unique instruction (September, 1882, p. 333) give room to that violent and unreasoning champion of anti-vaccination—William Tebb, of London. It is the game of these English anti-vaccinists to make an entrance into the respectable medical journals, obtain an audience, and state their side of the story by a very scientific array of figures. Before medical men can refer to authorities mentioned, and rebut to the calumnious statements, or show their insignificance, a harmful impression has gone abroad which cannot be overtaken.

In the article referred to, the most unwarranted and vindictive language is used, against men held too high in the esteem of English speaking people to be harmed by it, but our esteemed contemporary, of the *Therapeutic Gazette* can but suffer harm from being the medium of giving it publicity.

CURRENT LITERATURE.

Convallaria Majalis, (LILY OF THE VALLEY) AGAIN.—It is not much to the credit of the quick eye of the editors of medical journals in this country, that they should have gone to the French journals for the first knowledge of the reputed value of convallaria as a cardiac remedy, whereas we have a better account from a "Working Bulletin" issued by Messrs. Parke, Davis & Co., antedating the report found in the *Bulletin Général de Thérapeutique* by a year.

The report referred to was by a Russian physician, Dr. Ralph D'Ary, now resident in Rome, Mich. His attention was called to convallaria while on a visit to his native country some years ago, by witnessing the effect of the remedy in the person of an old man in the last stages of dropsy. He used it as a diuretic and tonic of the heart, and it seemed so very efficient that Dr. D'Ary made his case an object of special study.

We quote from Dr. D'Ary's report :

"I used the remedy somewhat indiscriminately in every variety of heart disease coming under my hands, both functional and organic, with a view of testing its efficiency in the various forms of these affections, and nearly in every instance with most gratifying results. In fact, I have not been able to determine any special indications (or contra-indications) for its use—its effect seems so uniformly beneficial. It certainly had not the least direct restorative value in my hands, in organic disease ; not any more than cactus grandiflorus, for which such claims have lately been set up by some enthusiastic practitioners, mostly of the homœopathic persuasion. But, although, convallaria is unable to alter the organic *status præsens*, it enables the patient to make the best of it, by compelling nature to put her best foot foremost. It is preëminently a regulator of nervous function, adapting the latter to existing conditions in such a manner as to compensate to the utmost possibility for the organic lesion. The sympathetic nervous system seems especially to be under its control, though it is by no means devoid of a powerful influence on the cerebro-spinal system. This circumstance accounts for its almost universal adaptability, in varying doses, to every variety of heart disease. In small doses it is a stimulant to the heart, increasing the frequency of its beats ; in larger doses it

is a tonic, and sedative, lessening the frequency, but increasing the energy and regularity of the contractions. In overdoses it is a swift destroyer of life, thoroughly paralyzing the heart. Over digitalis it has a most important advantage in the absence of a cumulative effect, at least so far as personal observations allow me to judge. On the other hand I have noticed that some patients seem, from idiosyncrasy, unable to endure it even in small doses. Wherever these unpleasant effects—manifested by dyspnœa, faintness, pain at the heart, etc.—become manifest, alcoholic liquors seem to me the promptest antidote. I would, therefore, strongly advise, in every new case, to begin with minimum doses and gradually increase until the desired effect is obtained, which generally takes place very promptly. It is an excellent nervine sedative tonic, especially where the patient suffers from the consequences of excessive reflex irritability or “nervousness.” Thus I have found it useful in certain conditions of insomnia, hysteria, the restlessness of fevers, infantile nervous disorders caused by the irritation of dentition, etc. In tic-douloureux, and neuralgia in general, it has sometimes acted with great promptness. It is not a narcotic or anodyne simply, and therefore does not merely lull the pain by stupefying the patient’s sensibility, but seems to act as a direct nerve tonic and sedative, restoring the equilibrium of nervous function. You will see, therefore, that it opens up a wide field for further careful investigation. In using it the practitioner should always bear in mind that in this connection the old adage, may well be reversed, and should be remembered as *magis remedium, magis venenum*. But though it requires care in its employment, I believe the convallaria to be a safer remedy than digitalis, in its cardiac sphere, especially in desperate cases where large doses are imperative. What practitioner of any experience has not found himself once in a while in a responsible position where he had to choose between the almost certain death of his patient, and another, and yet another heroic dose of digitalis, and yet had no means of ascertaining whether the preceding doses had finally expended their effect, or were only waiting the reinforcement of another dose in order, with combined power, to extinguish the last remnant of cardiac life? How often is the last dose of the potent but treacherous remedy but the messenger of death? Herein lies the special value of convallaria—once its effect

is expended apparently, it is so in reality, and another dose may be safely administered. Such is my experience, but as the point is one of so much importance, more than one or two men's observations should be recorded before it should be accepted as a fully determined fact.

"In giving the above to the press, I trust that the press will sufficiently appreciate this promising—nay, even now important—remedy to induce them to carefully experiment with it and make known the results."

Dr. D'Ary has also translated, from the Russian, some interesting experiments by Prof. S. P. Botkin.

Those of our readers who wish to investigate the effects of convallaria will find reference to it in the "Working Bulletin" above referred to; in *New York Medical Journal*, November, 1867; *Smith's Jahrbuch*, 1867, Vol. 166.

THE TOMB OF HARVEY.

Oct. 1882.

— *Mem. (65.) 10: 242. 243 #4*

A correspondent of the *Nation* writing from Birmingham gives an interesting account of the last resting place of Harvey. The tomb is under the church in the little village of Hempstead "The church is almost bare within, but over the pulpit is the Harvey crest—a helmet and an outstretched hand above it. The Harvey chapel is on the north side of the chancel. * * * There are Harveys of all ages from the old Eliab of 1698 (in his day a much greater man to the common world than the doctor), the Sir Eliab of Nelson's time, Admiral of the Blue, K.C.B., and the member for Essex, to "two daughters, Mary and Philadelphia, who died infants, and lie by their father."

The monument to the great physician is not in the chapel, but at the corner of the north aisle. The white marble bust of himself stands in a deep niche of dark stone. The head and face are more massive than the common portraits, but it is the opinion of experts who have examined it, among them Woolner himself, that it was copied from casts taken after death. Beneath it is a long

Latin inscription, recounting his discoveries in science and his benefactions to the College of Physicians in London.

“Beneath the Harvey Chapel is the vault which is entered from the outside by steep, narrow brick steps under a trap-door. * *

“The body of the great Harvey lies upon the floor close under the window. It faces the East, as it is noticeable all the bodies do, and it is said had never been moved in sixty-five years, which goes to show that his fame was so great that no other coffin was placed upon it. It is of semi-human shape as his friend Aubrey wrote : ‘He is lapt in lead, and on his *breast* in great letters Dr. William Harvey. I was at the funeral and helped to carry him into the vault.’ In the deep shadow the inscription was invisible, but by lighting a succession of matches we made out : ‘1656. William Harvey. Deceased June 30, aged, 80 years.’ The lower part of the coffin had shrunk and fallen in upon itself, with a crack at the bottom of the hollow, which showed it was full of water, left from the winter, no doubt, for the vault was dry enough on the warm July day.

“The College of Physicians has considered many plans—none more than that of removing the body of Harvey to Westminster Abbey and placing it beside his compeer, Hunter, but taking into consideration the traditions of the selection of this place at the time of his death (a Committee of the College attended the body when conveyed thither), and the long time he has lain here, they have at last concluded to enclose it in a costly sarcophagus and place it with suitable surroundings, in the old Harvey chapel above. * * * There is a further expectation that the whole church may be rebuilt and restored as a memorial to Harvey.

OVARIAN PRESSURE.

A Paris correspondent of the *Chicago Medical Journal and Examiner*, speaking of the results of ovarian pressure as practiced by Charcot at the Salpêtrière, says :—

“One of the first patients presented was a young girl of charming appearance. The only visible sign of a departure from normal

physiology was a persistent inward contraction of right foot. She was, however, wearing a ceinture which produced pressure in the region of the ovaries. The ceinture was removed, and immediately a violent fit of coughing was developed, which even for the short time that it was exhibited, was positively painful to observe. The ceinture was reäpplied, and the coughing ceased as by magic. Another patient was presented, with whom the removal of the ceinture was followed by the regular development of the various stages of epilepsy, exhibiting all the violence of agitation, frothing at the mouth, rapid, powerful muscular movements, followed by the most complete opisthotonos. The application of the ceinture cut short these paroxysms at any particular stage of their development with the most remarkable promptitude. Some half dozen patients were presented, illustrating in a similar way the same influence. In one case, when the removal of the ceinture was not followed immediately by an onset of the epileptic attack, the assistant gave a very slight but rapid tangential blow of the hand in the small of the back, and immediately the epileptic attack began, culminating in the cataleptic condition.

“One case was exhibited of unusual interest, on account of its history. Becoming pregnant, it was found that the points on which pressure had to be exerted in order to relieve the attacks of epilepsy, gradually ascended as the pregnancy developed.—*Boston Medical and Surgical Journal*.

REMOVAL OF DUTY ON FOREIGN BOOKS.

Students of special subjects must necessarily draw their supply of books from Europe, directly through the mail or through a dealer. One of the largest firms in New York, Messrs. E. Steiger & Co., has set the ball in motion, to remove the duty on books, notwithstanding the fact that they will lose largely, at first, by the change. We hope to see the duty on books removed, or, at least, to permit a student to import, duty free, through the mails, books for his own use.

THE INTRODUCTION OF THE CULTIVATION OF CUPREA BARK TREES INTO THE UNITED STATES.

Many years since, the American Medical Association appointed a committee to consider the cultivation of the cinchona in the United States. The committee considered, and, it may be, are still considering,—perhaps finally will discover what is at once apparent,—that the climatic conditions necessary for the growth of these trees do not exist in the United States. We have always believed associations and committees to be about as useful in the doing of scientific work as a Cape Colony trek-wagen, with its ten span of oxen, would be in a trotting-match ; and so it has been in the present instance. Nothing has been done, no new light shed, and when the opportunity has come it is not noted.

As early as 1820, a Brazilian surgeon, by the name of Remijio, pointed out to his countrymen that the bark of certain small trees or shrubs growing in Brazil is as effective as the Peruvian bark in malarial fevers, and ever since, in Brazil, these plants have been known by the names of *Quinia de Sera*, or *Quinia de Remijio*. St. Hilaire places these shrubs in the genus *Cinchona*, as *C. Remijiana*, *ferruginea* and *Vellozii* ; but De Candolle erected them into a new genus, *Remijia*, which has since been universally recognized by botanists. It is distinguished from *Cinchona* by the fruit capsules opening semi-loculicidally, by its peltate seeds, and by its inflorescence in elongated axillary racemes with opposite fascicles of flowers. In 1857, new barks appeared in the London market, but only within the last few years have these so-called *Cuprea* barks appeared in large quantities. For several years, it is stated, a single firm controlled the whole business of collecting and exporting the bark, which they affirmed was used for dyeing and was of but little value. So they kept the mine of wealth in their own hands, until the great size of their shipments excited so much attention that concealment was no longer possible. Then a rush to the forests, comparable to that to gold mines, occurred, and the whole business of Colombia is said to have been demoralized ; agriculture was neglected, clerks left their desks, exchange became irregular, and the “ fever ” raged universally.

The bark has been sent to London in such enormous masses as

to break the whole cinchona market. It has also been largely used in this country. Mr. S. G. Rosengarten states that the bark reaches us from London, and also directly from Colombia. There are two distinct regions which yield it ; one is the lower part of the basin of the Magdalena River, in the province of Santander, the trees growing in the mountain-chain of La Paz, and the port of export being Bucaramanga ; the other is the basin of the Orinoco, among the mountains which constitute the eastern branch of the Cordillera of the Andes.

These barks vary in the percentage of quinine they contain. Mr. Rosengarten informs us that the yield in their laboratories has been from one to two per cent., and that usually the bark is remarkably free from inferior alkaloids. The complete absence of cinchonidine is said to be characteristic of them. Messrs. D. Howard and I. Hodgkin, Dr. B. H. Paul, and Mr. Cownley and Mr. T. G. Whiffen almost simultaneously announced the discovery in them of a new alkaloid, *homoquinine* or *nitraquinine*, which there is reason for believing is a double salt of quinine and quinidine. The characteristic chemical product of the bark is, however, the alkaloid *cinchonamine*, whose right to a separate existence seems to be well established.

Mr. Bentham states that the genus *Remijia* comprises thirteen species. According to the researches of José Triana, only two of these, *R. Purdicana*, Wedd., and *R. pedunculata*, Triana, yield *Cuprea* bark of commerce.

The important fact connected with these trees is that they grow in a rather dry climate, in position a little above the level of the sea, and hence without doubt can be cultivated in many inter-tropical countries where the *Cinchonas* will not grow. There is good reason for believing that they would flourish in Southern California and in some of the Gulf States. The people of the United States are now absolutely dependent upon the outside world for the means of combating the malaria which is so deadly in much of our territory. Were it not for quinia, we believe, ten per cent. of the whole population of many districts of the country would be ill every autumn. Yellow fever epidemics make much noise, because their effects are so concentrated and apparent ; but three autumn months without quinine would probably witness more deaths from

malaria in the United States than yellow fever has caused among us during the century. The fiscal returns indicate that over a million of ounces of quinine are used in ordinary healthful years in the United States ; and in some years the amount probably rises to nearly a million and a half ounces, or forty-five millions of full antiperiodic doses. So much of tribute to South America and India. More than this, what should we do if the supplies were cut off ?

We have, practically, no navy, and until politics are reformed and placemen give way to officers chosen for ability, shall have none. In a war with Great Britain, with blockaded ports, malaria would find its opportunity. Is there not, then, one Congressman with energy and brains, who will take up this subject and put through Congress a bill to send botanical collectors to the cuprea districts, to study the condition and habits of growth, to collect trees, seed, etc., and to make an effort for culture at home upon a large scale ? If successful, the pecuniary returns would be enormous ; and it would probably be worth while for some rich capitalist to make the venture as a speculation, if Congress be too busy improving ditches to pay attention to a matter like the present. The Indian cinchona plantations are said frequently to pay seventy per cent. of their cost in a single year, and to continue in bearing for decades,—indeed, under either the “mossing” or the cheaper “coppicing” system, for indefinite years. Cutting down a cinchona is followed by an uprising of shoots, precisely as with our chestnut trees, and the eighth year these shoots yield the richest bark ; this is “coppicing.” “Mossing” is taking off strips of the bark and protecting the bared wood by moss, so as to let the bark form again.

We are not sure but that the “Agricultural Department” might very properly take this subject in hand, and, if it have not the means immediately to take active measures, send a report which shall wring from Congress the necessary aid. The cry of “quinine forever” might be as popular a political war-cry as was “free quinine,” a few years ago, in the malaria-scourged Southwest.

Prof. Baird, of Washington, seems to hold, by some mysterious power, Congress in the hollow of his hand. The many thousands which are spent annually under his immediate supervision in the

fisheries work, National Museum, Smithsonian Institute, etc., are as honestly and wisely spent as they are shrewdly won; but no one thing that he has as yet achieved would compare in usefulness with the formation of cuprea forests in the United States. Can he not spare time to obtain means for and to organize such work, in connection with the National Museum.—*Philadelphia Med. Times.*

TREATMENT OF PUERPERAL MASTITIS BY IODIDE OF LEAD OINTMENT.

The breast being thoroughly dried and perfectly cleansed, we smear its surface with the officinal ointment of the iodide of lead, and then gently rub it in until a considerable quantity is absorbed. Soak a piece of sheet-lint, of a size sufficient to cover the breast, in the following solution: acetate of lead, from ʒij to ʒss to the pint, of a one-to-four solution of alcohol. If we desire a more elegant preparation, eau de cologne may be substituted. If there be much pain, it is often used to apply an ice-bladder upon the sheet-lint covering the breast. The lint should be frequently dipped in the lead lotion. The following phenomena will present themselves: first, a cessation of pain, fulness and uneasy feeling of distension, which is so annoying. It is common for the patient, who has been exhausted by pain, and consequent loss of sleep, to fall into a refreshing slumber even after the application is made. In the course of three or four hours, the breasts may be completely emptied by an experienced hand. The ointment should be used as a lubricant during the manipulation. By applying the iodide freely twice, or thrice, daily, the secretion will be gone in less than one week, as a rule. The pivotal point in the treatment is the use of this ointment; the evaporating lotion, and cold being only adjuncts. I have proved by repeated trials that, when applied alone, it is capable of exerting an absolute control over the secretion. I believe we here invoke a specific action from the lead iodide. A point of considerable moment is the partial anesthesia it is capable of inducing, which thus enables us to empty the glands, where

before even slight pressure was badly borne. Its action without doubt extends to the epithelial cells and inhibits their secretory activity, as is seen in its action, in cases like the above, in causing the drying up of the secretion.

* * * * A word as to the use of belladonna. I must confess that I have met with poor success from its employment. My experience may have been exceptionally unfortunate, but reasoning from it alone, I could not recommend it as capable of accomplishing more than the expectant treatment—*Dr. Thomas T. Gaunt, in American Journal of Obstetrics, October, 1882.*

ECZEMA MARGINATUM, (TRICHOPHYTOSIS CRURIS. G. II. FOX.)

Some months ago (NORTH CAROLINA MEDICAL JOURNAL Vol. 4, p. 376) Dr. W. J. H. Bellamy, of Wilmington, sent us an article on the use of Iodized Phenol* in eczema marginatum.

Since that time many cases have come under our observation, and our success has been so uniform and gratifying, that we desire to call the attention of our readers again to it.

Success in the treatment of eczema marginatum with iodized phenol will depend upon the way in which it is employed. In some cases the full strength of the preparation cauterizes severely, and in others it causes almost unbearable pain. The majority of patients will be able to stand the application full strength, but if by chance you get a patient whose first experience is painful, it will not be so easy to induce him to continue the treatment.

The complete eradication of the disease requires long and patient treatment, although the first few applications afford so much relief from the itching, that as soon as desquamation takes the place, and clean surface appears, the patient is apt to neglect treatment, and

*R. Iodinii cryst. $\frac{3}{4}$ ss.

Acidi carbolici $\frac{3}{4}$ i.

Mix and combine by gentle heat.

return to you after many weeks with a reëppearance of a group of itching red "buttons" as Dr. Fox terms them.

To apply the iodized phenol properly, the patient should have a preliminary bath. A piece of absorbent cotton, twisted over the end of a match, makes a good applicator. The fluid should be applied experimentally over two or three of the marginal patches or buttons, to determine the patient's tolerance of the stronger fluid. If no severe pains result after waiting a few minutes, the application may be made over all the *margin* of the eruption. This should be repeated daily until desquamation commences. Desquamation, of course, leaves the skin very tender, and consequently applications should then be made only to the red "buttons" as they show themselves. The last to disappear will be those well up to the verge of the anus, but daily all of them should be diligently sought for, and touched with the fluid.

In cases intolerant of the full strength fluid, it can be applied diluted with equal parts of glycerine. It usually takes a longer time to relieve a patient with the mitigated solution.

Very few cases can be left to the patient to treat, for if one or two patches escape his eye, it will serve as a focus of contagion, which will eventually become as bad as ever.

During the period of local treatment, a saline aperient such as epsom salts or Hunyadi bitter water will make the secretions of the skin of the genito-crural region less acrid, and so facilitate the cure.

ANEURISM OF THE ARCH OF THE AORTA SUCCESSFULLY TREATED BY IODIDE OF POTASSIUM.—Dr. Rhett, of South Carolina, reports a case as above. He administered 70—80 grains of the salt daily for six weeks. After a short respite the same treatment was resumed. She was cured, and after seven years Dr. Rhett examined his patient but found "no vestiges of the aneurismal brnit and dilatation. His success was so complete that he afterwards doubted his diagnosis, but a careful review of the case confirmed him in the original correctness of his diagnosis.

NOTES.

THE SANITARIAN will appear on the first of next year as a weekly double column, quarto, 32 page paper. This admirable journal is one of the necessary periodicals, and its more frequent visits, will be appreciated by its large list of subscribers. Few men in America have done as much as Dr. A. N. Bell, its able and zealous editor, towards establishing a sanitary literature.

ADULTERATION OF BISMUTH SALTS.—The demand for cheaper drugs seems to meet with a response from some wholesale dealers. Dr. Squibb (*Ephemeris*, September, 1882,) examined a specimen, labelled subnitrate of bismuth, bought in a *paper parcel* from a respectable maker, and found that instead of subnitrate of bismuth, it proved to be a compound consisting approximately of 70 per cent. of oxide of bismuth and 30 per cent. of nitrate of sodium. If the demand for cheap drugs is going to put into market such preparations, it is high time that the doctors were looking a little closer into the quality of the medicines they are giving their patients.

THE *Louisville Medical News* which has been edited by Drs. Holland & Cottell until recently, in the issue of October 7th, has been taken in charge by Drs. Lunsford P. Yandell, and L. S. McMurty. Much is expected of this new combination, rather more than from other Journal editors, because of the brilliant career of the *News* in the hands of the late lamented Dr. Cowling. We wish them success.

PASTEUR'S "VACCIN CHARBONNEUX", by which he expected to do for the anthrax of sheep, what true vaccination did for small-pox, is surely being demonstrated a failure. Dr. Klein has lately been testing the value of the fluid sent out by Pasteur as "*premier vaccin charbonneux*", and "*deuxieme vaccin charbonneux*", and he finds that animals inoculated with these fluids as directed, are not protected against fatal anthrax. Dr. Klein also warns against the introduction of these fluids, as no anthrax exists in Germany, and they seem to him to be most dangerous, and capable of producing incalculable mischief.

A STRONG SULPHUR SPRING SPOILED.—Dr. Hurd, of Newburyport, Mass., in an article contributed to the *Bulletin Thérapeutique*, on the mineral waters of the United States, describes a remarkable sulphur spring in his own State.

A spring had been discovered in a village near Boston, remarkable for its strong sulphur impregnation. Its fame grew so rapidly that a new hotel was constructed to accommodate the increasing number of guests. In the course of construction it became necessary to excavate the privy sink. Soon after the water of the famous spring lost its health-giving ingredient of sulphureted hydrogen, the source having been destroyed, and in consequence the health resort was speedily decimated.

BURDOCK IN PSORIASIS INVETERATA.—In a letter to Dr. Squibb's *Ephemeris of Materia Medica* from Dr. Reiter, of Pittsburg, Pa., gives his experience with burdock (*Lappa Major*) in the treatment of psoriasis inveterata. He prepares a tincture of the seed, and gives from two to four drachms well diluted with water, a half hour before each meal. Dr. Squibbs suggests the following as the best way to prepare it: Take two pounds of fresh burdock seed and grind in a good sharp coffee mill, putting it through several times with the mill screwed up as closely as possible, until the seed is well broken up. Put equal parts of the seed in two one gallon bottles, and fill them up with whiskey not less than two years old. These should stand in a warm place with occasional shaking, for a couple of weeks, when the clear tincture will be ready for use. The dose is a tablespoonful in water, as stated above. Dr. Reiter's account of a cure in his own person, should induce others to try it. Burdock has long been reputed a remedy for "diseases of the skin" in a general way.

HOW TO HANG A CRIMINAL is discussed in the *Medical Record*, (October 14) by Dr. G. M. Hammond. He relates some personal experiences of partial strangulation by means of a towel, in the hands of some friends, twisted tightly around his neck.

He concludes that the proper and orderly way of hanging is not to let the criminal fall, or jerk him into the air, but to stand him on the ground, or on a suitable platform, and to adjust the noose

carefully around his neck below the larynx, and he should be raised by pulling on a rope run through a pulley, and allowed to hang for 30 minutes. If he is made to fall through a trap or is lifted suddenly from the ground the noose is almost certain to be displaced, and death is not as sudden as it ought to be. From the instant suspension takes place there is no sensibility to pain, for the ensuing convulsions are no more an indication of pain than are the movements of a decapitated chicken, they are such as always ensue when the blood-vessels of the neck and trachea are suddenly closed.

SCARS OF THE FACE.—This interesting branch of cosmetic surgery is treated by Dr. C. L. Bull, of New York, in a reprint from the *Transactions of the Ophthalmological Society*. He says: "Persistent rubbing and kneading of scars of the face, both those due to burns and those resulting from bone-caries, as preparatory to blepharoplasty, have, in a number of instances in the writer's experience, yielded most excellent results. Adhesion of scars, slight or extensive, to the subjacent parts, have been slowly, cautiously and painlessly detached, and a gradual absorption of the firm material in the dense part of the scar has been brought about. So considerable has been the result obtained in some cases that the writer has come to regard this gradual extension and loosening as an important part of the treatment in these cases.—*British Medical Journal*.

PHYSICAL DIAGNOSIS.—*Oliver Wendell Holmes*: I have often felt, when seeing hospital patients worried by hammering and long listening to their breathing, in order that the physician might map out nicely the diseased territory, the boundaries of which he could not alter, as if it was too much like the indulgence of an idle and worse than idle curiosity. A confessor may ask too many questions; it may be feared that he has sometimes suggested to innocent young creatures what they never would have thought of otherwise. I even doubt whether it is always worth while to auscult and percuss a suspected patient. Nature is not unkind in concealing the fact of organic disease for a certain time. What is the great secret of the success of every form of quackery? *Hope kept alive*. What is the too fatal gift of science? *A prognosis of despair*. "Do not probe the wound too curiously," says Samuel Sharp, the famous

surgeon of the last century. I believe a wise man sometimes carefully worries out the precise organic condition of a patient's chest when a very wise man would let it alone and treat the constitutional symptoms. The well-being of a patient may be endangered by the pedantic fooleries of a specialist.—*Michigan Medical News*.

CHICAGO, ILL.

∞ I have been using CELERINA in nervous diseases, particularly functional diseases of the heart, for some time, and I am satisfied that as now prepared it is a useful remedy.—E. FLETCHER INGALS, M.D., Prof. Physiology, Hygiene and Clinical Medicine, Medical College of Indiana, Indianapolis Ind.

JOURNAL OF CUTANEOUS AND VENEREAL DISEASES. Edited by HENRY G. PIFFARD, M.D., and PRINCE A. MORROW, M.D. Price \$2.50 a year.

The first number of this Journal appears in October. It opens with an article by Dr. Geo. H. Fox, the well known author of excellent works on diseases of the skin. This article is illustrated by a good lithograph of Trichophytosis cruris, (Eczema marginatum,) and is a valuable contribution. If this Journal is maintained at the excellent standard it has attained in its first number, it will be a valuable and acceptable visitor to the offices of all physicians who find difficulty in managing skin diseases,—and who are not ?

PULVIS DOVERI.—*Canadian Journal of Medical Sciences*: People whose "inward griefs and peristaltic woes" have been relieved by the powder of Dover, do not generally know to whom they are indebted for this excellent compound. Dr. Dover was a friend of the great Sydenham. He commenced practice in Bristol, where, having made some money, he longed to make more. The Roll of the College of Physicians tells us that he joined with some merchants in fitting out two privateers for the South Seas, in one of which, the "Duke," he himself sailed from Bristol, 2d August, 1708. On the passage out they touched at the Island of Juan Fernandez, where Dover on the 2d February, 1708-9 found Alexander Selkirk, who had been on the island alone for four years and four months, and whom Dover brought away in the "Duke." In the April follow-

ing Dover took Guiaquil, a city or town of Peru, by storm. In December, 1709, the two privateers took a large and valuable prize, a ship of 20 guns and 190 men, in which Dover removed from the "Duke," taking Alexander Selkirk with him as master, and finally reaching England in October, 1711. After this cruise Dr. Dover removed to London, where his practice soon became great. His patients and the apothecaries who wished to consult him, addressed their letters to the Jerusalem coffee house, where at certain hours of the day he received most of his patients.—*Michigan Medical News.*

ST. LOUIS, MO.

Kennedy's Compound Extract *Pinus Canadensis* received. It is the only astringent I use in the throat. I consider it a very valuable preparation.

THOS. F. RUMBOLD, M.D.

THE SUBCUTANEOUS INJECTION OF ETHER,—It should be more generally known that ether injected subcutaneously has a powerful stimulant effect, and is remarkably efficacious in cases of extreme depression of the powers of life. It has long been used to a limited extent in such cases; but increased experience has enlarged the domain of its application. In adynamic pneumonia, in fevers when failure of the vital powers is threatened, in the puerperal state, in cases of thrombosis of important vessels, it has been lately used with singular benefit. It has also important applications as a hypnotic and local anodyne. In cerebral excitement and wakefulness, accompanied by depression of the arterial circulation, it is most useful. In the more chronic cases of superficial neuralgia, in sciatica, lumbago, intercostal pain, zoster, etc., ether injected near the affected nerves often gives surprising relief. There are contra-indications to its use, as in cases of cardiac depression due to chloroform or ether narcosis. Alcohol is also improperly used under these circumstances. Ether is unsuitable when there is arterial excitement with power. As ether destroys the oil with which the piston of the syringe is lubricated (cosmoline is best suited for this purpose), the syringe should always be put in order after injecting. From ten to sixty minims may be injected, fifteen being the usual dose. The smarting from the injection is much obviated by pressing on

the orifice while withdrawing the needle, so as to prevent the ether escaping. The ether may be used three or four times a day in adynamic pneumonia; but when sudden extreme depression of the heart has to be overcome, ten or twenty minims may be injected every five minutes, until some result is attained. The curative results are not only different in degree, but in kind, from those derived from the administration of the ether by the stomach—a fact which must be recognized in order to obtain a correct notion of the utility of this practice.—*Philadelphia Medical News*, September 2.

FERRUGINOUS LIVERS.—The presence of an excess of iron in the livers of anæmic patients is a curious fact, of which several instances have been described in Germany. One case was described by Stahel: and Lindenlang, in the liver of a patient with purpura, found a considerable excess of iron. Marchand has lately described the liver of a phthisical patient, aged sixty years, which presented an unusual brownish-red color associated with evident cirrhosis. The microscope showed an infiltration of the hepatic cells and of the intestinal connective tissue by pigmentary corpuscles, which gave the characteristic test for iron with yellow ferrocyanide. A chemical analysis showed that the ashes contained not less than 30 per cent. of iron. It has been supposed that the excess of iron is the result of an abnormal destruction of red blood corpuscles in the organ, but it is open to question whether it is more than the result of the free administration of iron by the mouth.—*Lancet*, September 23, 1882.—*Philadelphia Medical News*.

SULPHUR AS A PRESERVATIVE AGAINST MARSH FEVER.—At a recent meeting of the Paris Academy, M. d'Abbadie called attention to some facts regarding marsh fever, which African travellers and others might do well to ponder. Some elephant hunters from plateaux with comparatively cool climates brave the hottest and most deleterious Ethiopian regions with impunity, which they attribute to their habit of daily fumigation of the naked body with sulphur. It was interesting to know whether sulphurous emanations, received involuntarily, have a like effect. From inquiries made by M. Fouque. It appears that in Sicily, while most of the sulphur mines are in high districts and free from malaria, a few are

at a low level, where intermittent fever prevails. In the latter districts, while the population of the neighboring villages is attacked by fever in the proportion of 90 per cent., the workmen in the sulphur mines suffer much less, not more than eight or nine per cent. being attacked. Again, on a certain marshy plain near the roadstead in the island of Milo (Grecian Archipelago), it is hardly possible to spend a night without being attacked by intermittent fever, yet on the very fertile part near the mountains are the ruins of a large and prosperous town, Zephyria, which, 300 years ago, numbered about 40,000 inhabitants. Owing to the ravages of marsh fever the place now is nearly deserted. One naturally asks how such a town grew to its former populous state. Sulphur mining had been an important source of wealth in Mile from the time of the ancient Greeks. Up to the end of last century the sulphur was chiefly extracted at Kalamo, but since that time it has only been mined on the east coast of the island. The decadence of Zephyria has nearly corresponded to this transference. The sulphurous emanations no longer reach the place their passage being blocked by the mountain mass. Once more, on the west side of the marshy and fever-infested plain of Catania, traversed by the Simeto, is a sulphur mine, and beyond it, at a higher level, a village which was abandoned in the early part of this century because of marsh fever. Yet there is a colony of workmen living about the mine and they seem to be advantageously affected by the emanations. M. d'Abbadie further mentions that the engineer who made a railway through this notorious plain preserved the health of his workmen by requiring them to drink no water but what was known to be wholesome and was brought from a distance.—*London Times, Weekly Edition.*

THERAPEUTIC USE OF SOFT SOAP.—Professor Senator considers that amid the many new remedies introduced, some of the old have fallen undeservedly into disuse, among these especially soft soap (*Berl. Klin. Woch.*, No. 38, 1882). He has used inunctions of soft soap in numerous cases with most distinct benefit, viz., in chronic non-scrofulous glandular swelling, in indolent syphilitic glandular swelling, and in serous exudations, including the exudations in synovial cavities. He cannot come to a definite conclusion as to

the *rationale* of the action, whether it is the massage employed, or the irritation produced, or the alkali absorbed; but the fact of the increased absorption under this treatment he considers undoubted. *London Medical Record*.

THE PHARMACOPEIA OF THE UNITED STATES OF AMERICA. Sixth Decennial Revision. By Authority of the National Convention for Revising the Pharmacopœia, Held at Washington, D. C., A. D. 1880.

This long looked for volume has just come to hand as we are bringing this number to a close. There is no time left to consider its merits. A rapid glance at its contents brings to view so many important changes as compared with the last edition that we reserve a fuller notice for our next issue.

The mechanical execution of the volume is good, the type clear, and the size considerably increased.

REMOVAL OF PLASTER-OF-PARIS BANDAGES.—Dr. F. H. Murdoch, of Bradford, Pa., says (*Nashville Jour. of Med. and Surg.*) that a very convenient way to remove a plaster-of-Paris bandage is as follows: Take a strong solution of nitric acid, and by means of a camel-hair pencil, paint a strip across the bandage at the most desirable point for division. The acid will so soften the plaster, that it may be readily divided by means of an ordinary jack-knife.—

BOOKS AND PAMPHLETS RECEIVED.

Sixth Annual Report of the State Board of Health of Wisconsin. 1881. Madison: David Atwood, State Printer. 1882.

The Mulum in Parvo Reference and Dose Book. By C. Henri Leonard, M.A., M.D. Detroit: The Illustrated Medical Journal Company. 1882.

Elements of Chemical Philosophy, Based on the Atomic Theory. By Vincenzo Marcano, Member of the Chemical Society of Paris, etc., etc. Caracas. 1881.

Transactions of the State Medical Society of Arkansas, at its Seventh Annual Session. Little Rock, Ark. : Printed by Kellogg Printing Company. 1882.

Nitro-Glycerine as a Remedy for Angina Pectoris. By William Murrell, M.D., M.R.C.P. Detroit, Mich., U. S. A.: Geo. S. Davis, Medical Publisher. 1882.

Speech and its Defects. Considered Historically, and Remedially. By Samuel O. L. Potter, M.A., M.D. Philadelphia : P. Blakiston, Son & Co., 1012 Walnut Street. 1882.

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ORIGINAL LECTURES.

INTRODUCTORY LECTURE TO THE COURSE OF THERAPEUTICS.*

Delivered in the Hôpital St. Antoine.

By Professor DUJARDIN-BEAUMETZ, of Paris.

SUMMARY : *What is Meant by the Term Clinical Therapeutics?—Clinical Medicine and Clinical Therapeutics—Utility of Therapeutics—Scepticism and Enthusiasm in Therapeutics—Illusions in Therapeutics—Is Medicine an Art, or a Science?—Empirical and Experimental Therapeutics—Polypharmacy in Therapeutics—Therapeutics Directed at Symptoms—Constancy in Therapeutics—Necessity of Sang Froid in Therapeutics—Accumulation of Doses—The Art of Prescribing—The Part of Hygiene in Therapeutics—The Part of Etiology in Therapeutics.*

GENTLEMEN :—I owe you an explanation of the words “ Clinical Therapeutics ” placed at the head of these lectures. What is meant

*Translated with permission of the author from the recently published “ Clinique Therapeutique,” by Dr. E. P. Hurd, Newburyport, Mass.

by Clinical Therapeutics? What are the limits? Deriving the name, as we do, from two distinct departments of medical study, What part shall we assign to therapeutical, what part to clinical medicine? On all these points I will endeavor to be explicit.

CLINICAL MEDICINE AND CLINICAL THERAPEUTICS.

When you study therapeutics so-called, you pass in review the different medicaments which constitute the *Materia Medica*; you learn their natural history, their physiological properties, their dosage, and their various applications in the treatment of diseases.

This method of study is altogether theoretical. It is like commencing clinical medicine by learning about diseases, their march and their symptoms in treatises on Pathology and Practice; but in order that Therapeutics, like Pathology, may become practical, useful, productive, the theoretical notions which you have learned must be applied to the patient; moreover, as Clinical Medicine is the study of the modifications which different organisms impose on the course of morbid affections, so clinical therapeutics will enable you to appreciate in the living being the constantly occurring deviations from the precise laws formulated by therapeutics properly so-called.

To examine and survey the effects of different remedial agents administered to the patient, and to study their indications, will constitute, for us, clinical therapeutics.

In pursuit of this knowledge you will learn not only how to *handle* medicines, but also how to associate them so as to constitute what has been described under the name of medication. No study is more practical, none more necessary.

UTILITY OF THERAPEUTICS.

In this place, to insist on the necessity of therapeutics, would be absurd; medicine without therapeutics does not exist. All that you learn about medicine properly so-called, and the sciences accessory to it, has but one end and aim—to relieve and cure the patient.

When you are in presence of a sick person, after having taxed all the knowledge you possess to enable you to arrive at an exact diagnosis, and after having carefully considered the prognosis, you are inevitably and fatally brought to face the question which your own

conscience, your patient and those around him force upon you, What must be done ? You will have to look to therapeutics for an answer, and the world will form their opinion of you much more from the skill with which you combat disease, than from the knowledge, however pretentious, which enables you to recognize and diagnose disease.

Far from our thought the intimation that one can be a good practitioner without a thorough understanding of clinical medicine and pathology ; in order to institute a treatment and determine the indications, it is absolutely necessary to know accurately (as far as possible), the symptoms and natural tendencies of the malady which is before you. In fact everything in therapeutics will be hesitating, mismanaged, incoherent, unless you begin by establishing the treatment on a solid basis, which is an exact knowledge of the morbid affection.

SCEPTICISM AND ENTHUSIASM IN THERAPEUTICS.

When occupied with therapeutics there are two dangerous rocks to shun ; scepticism on the one hand, exaggerated enthusiasm on the other. To believe too much and not to believe at all are two opposite terms, but they are not so far apart as one might suppose. The one engenders the other, and extreme credulity gives rise to incredulity.

Beware especially of scepticism. A physician who lacks faith in medicinal measures has no more reason for existence than a priest who does not believe the religion he teaches, or a soldier destitute of love of his country and his flag. It is repugnant to reason and to conscience that he can be a good physician who judges of no utility all the remedial agents that have the sanction of tradition and custom.

ILLUSIONS IN THERAPEUTICS.

But, on the other hand, it often happens that he who has the reputation of being sceptical at the hospital becomes an over-zealous prescriber when at the bedside of his private patient. Believe then in your art, but that this belief may be judicious, reasonable, let it not suffer you to be too easily carried away by what you may deem the results of your medication ; in therapeutics, illusions are

indeed very frequent. This arises from numerous causes, especially from the propensity of the human mind to attribute all that eventuates favorably in the course of the disease to the medicine given when very often it is only the natural evolution of the disease which the physician has observed.

It is particularly in epidemic complaints that great prudence and extreme reserve should be exercised before drawing conclusions. The type of epidemics is variable, and according as this is mild or severe, therapeutical results are different. This explains to you why it has happened that certain remedies, exhibited with success in some epidemic and contagious diseases, in other seasons have failed to give as good results. This is an example of those therapeutic illusions which have encumbered the *Materia Medica* with so many drugs which have obtained a certain brief reputation in their day, soon to fall into forgetfulness and neglect until another experimenter repeating the experiences of a bygone time, restores them to passing notoriety.

This celebrity, then this decadence of remedial agents, are unfortunately facts of too great frequency in therapeutics. So, after having pruned away all the useless and superfluous substances of the *Materia Medica*, if you retain only those which medical practice has consecrated by long usage, you will find that the really useful medicaments are much less numerous than one would suppose, and that your daily practice will include but a few drugs.

IS MEDICINE AN ART OR A SCIENCE ?

For a long time the question has been discussed : "Is medicine an art or a science ?" It is both.

Medicine is a science by the many kinds of knowledge which it includes as a necessary part ; it is art by its application to the patient, and above all by its therapeutics. It is in this art that all the talent of the physician finds its proper exercise ; it is by the form given to his preparations, by a happy choice of remedial agents, by their favorable combination, that the physician is a veritable artist. And when Trousseau pronounced these words he was himself the living personification of the fact, for no one ever carried farther than he the art of therapeutics.

EMPIRICISM.

Follow no exclusive method ; draw from all sources. Be not too solicitous for physiological explanations ; do not demand for each drug an absolute experimentation which may explain its therapeutical action. Because you do not know the mode of action of quinine, do you any the less believe in its efficacy in intermittent fever ? Because you are ignorant how mercury acts, does it cure syphilis any the less ?

I am aware that by so speaking, I lay myself open to the charge of crass empiricism. It will be said too that I am diverting therapeutical practice from the new and scientific road, which it ought to travel. But this road is scarcely marked out ; only here and there a few stakes have been set, and unhappily these stakes are not very firmly placed.

EXPERIMENTAL THERAPEUTICS.

Experimental therapeutics, in fact, may be said to exist only in name. Being unable to induce in animals artificial diseases, we cannot study on them the therapeutical action of drugs. We have scarcely been able to arrive at a knowledge of their physiological action ; for we are too often obliged in order to obtain appreciable effects, to produce grave disorders, and to administer the drug in the state of poison rather than in the state of medicine. By this method, then, of studying the action of drugs, we have cultivated an experimental toxicology, rather than experimental therapeutics. Do not think, however, that I would discourage these researches. You know, on the contrary, how much I prize them. You have often seen me in our laboratory, study the effects of medicines on animals ; you have seen me examine attentively the symptoms produced. It is indeed an excellent study which has furnished valuable data, but do not forget that it is only a complementary study.

It enables us to give a tolerably plausible explanation of the action of the medicament, and especially to know the limits beyond which it is not safe to go, and at what moment the drug ceases to become medicinal and becomes a poison. But it is not physiological experimentation that decides the destination of the medicament, or of medication ; it is the effect of the remedy on the sick man,

and on the march of the disease which determine its therapeutical value.

The history of therapeutics these last few years shows that it is by this mode of procedure that progress in this science has been made. Do you believe that it was as a sequence of experimentation on animals that chloral, bromide of potassium, alcohol, etc., were introduced into therapeutics? No, the clinician first noted with care the favorable results obtained in the treatment of active affections, then the facts reported were confirmed by the experience of others, and the experimenter applying the drug in his turn to animals studied the intimate mechanism and physiological action.

It is then always to observation that you should have recourse; it is to the attentive examination of the patient that you should always return. Careful observation will enable you to study the action of the drug, to lessen or modify the dose according to the indications, and to decide the proper form for administration.

COMPLEXITY IN THERAPEUTICS.

Do not employ too many remedies at the same time; do not in your busy endeavors to serve your patient, inflict upon him medicines and medicinal measures widely differing in their action. Study with care the disease which is before you; go back to the origin of the morbid affection; formulate the leading indications resulting therefrom; decide concerning the diatheses which have influenced the course of the malady, institute a plan of treatment and endeavor to carry it out with a very moderate exhibition of drugs.

THERAPEUTICS OF SYMPTOMS.

During the years just passed, we have seen it gravely urged that we should treat diseases by meeting particular symptoms; that is to say, by combatting each of the morbid phenomena by a specific medication. This is, I believe, (in very many cases at least) a pernicious course to pursue, and one for which there is little scientific justification. Instead of dispensing your medicines in this way, instead of introducing into the economy numerous substances differing in their nature, differing often in their action, adopt an opposite method, that is to say, endeavor to find the point of depar-

ture of all the manifold symptoms, and to this, as the real cause, direct your medication.

CONSTANCY IN THERAPEUTICS.

Be not too changeable, do not allow yourself to drift about at the caprice of your patient, who would fain experience immediately the benefit of the medication ; learn to be patient and wait until the medicine has had time to produce all its effects. Husband well your therapeutical forces, do not expend all your efforts at once, follow the tactics of the army general, and to decide the victory, keep always strong reserves.

COOLNESS AND PRESENCE OF MIND IN THERAPEUTICS.

Unhappily the physician in certain cases called cases of urgency often yields to the importunities of the family, who are frightened at the progress of the disease, and administers with lavish hand medicines that are heterogeneous and even incompatible.

ACCUMULATION OF DOSES.

In the midst of the general disorder be calm and cool ; be not precipitate in the administration of remedies ; act rapidly, and with energy, but go right to the end you have in view, without stopping to meet secondary symptoms.

Do not forget especially if you institute a course of treatment that must be continued for some time, that a great many remedial substances, when given for a good while, either lose their effect, or produce cumulative effects in the economy. You must in these cases know how to suspend and interrupt the administration of the drug at the proper time, you must know also how to vary its administration, in order that the patient may not be disgusted with the remedy from long taking it. Remember also that the effects of the same medicines differ according as they are taken in massive or fractional doses.

THE ART OF PRESCRIBING.

This is not all ; it is desirable that the physician should use the utmost care in prescribing his medicines. The hospital practice does not, unfortunately, favor this special study ; we find ourselves

in a particular situation which obliges us to formulate too rapidly and incompletely, so that after having followed for several years our hospital services, the most of you are almost entirely ignorant of the art of prescribing.

This ignorance has more serious consequences than you think of, and if we see, in our day, pharmaceutical specialties having a constantly increasing importance, it is in some measure due to the fact that physicians do not acquire that expertness in the preparation of their medicines which they ought to possess, and prefer lazily to rely on the combinations of the manufacturing chemist, or even on the so-called "quack medicines."

But if by pursuing this course the practitioner often promotes the fortune of the pharmacist, he despoils himself in the end, for the patron, beguiled by the advertisements which accompany his nostrum, is almost certain to apply in the future, not to his physician, but to the vender of the patent medicine.

Learn then skilfully to prescribe, and not only to write in an orderly and judicious manner the substances which compose your prescription, but also to render the combination as pleasant to the taste as possible. Repudiate, therefore, in a general way, all the specialties which imitate the therapeutics of to-day. Exercise the greatest care in the directions which you give to the patient or his nurses; do not fear to enter into the minutest details; indicate how the external applications should be made, and the times for giving the internal remedy; regulate carefully the little incidents of the day, and be particular about the diet. For you must ever remember that pharmaceutical measures go but a little ways in the cure of your patient, and that you can often accomplish more by hygiene than you can accomplish by medicine.

HYGIENE IN THERAPEUTICS.

Hygiene is, in fact, called upon to play a preponderating part in the treatment of diseases, and especially of chronic affections. To establish with care and in a scientific manner the bases of dietetics, ought to be one of the most serious occupations of the practitioner, and you will see in the course of these lectures the prominence which I give to hygiene in the treatment of diseases.

ETIOLOGY IN THERAPEUTICS.

By the side of hygienic therapeutics, it is also necessary to bring into light the importance of a study of the causes of the disease, for the old adage: *Sublatu causa tollitur effectus*, is always true. Therefore, Professor Bouchardat was right in insisting that etiology is as indispensable to therapeutics as is hygiene, or the administration of medicines.

Pardon me, gentlemen, for these remarks, but in undertaking the responsibilities of private practice, you will soon learn how all these details contribute toward the reputation which the physician enjoys. The patient cannot, in fact judge of your technical knowledge, he appreciates simply the care which you give him, the devotion and skill which you display in such cases; he forms his opinion of you and values you by the little details of our art. Do not think lightly then of these details, to which you will see me again and again return in the treatment of our patients.

I hope I have shown you the utility of Clinical Therapeutics, and the farther we shall penetrate into the study which we began to-day, the more will you be able to appreciate at their just value the results which I expect to obtain from this fruitful journey which we now undertake together.

McC med J. (O.S.) 10: 269, #5, Nov 1882.

HIP-JOINT AMPUTATIONS.—Within a month three striking instances of the value of Mr. Davey's lever in this operation have occurred in England. A case operated on by Mr. McLaren, of Carlisle, lost only two ounces of blood; one under Mr. Cowell's care at the Westminster Hospital lost three ounces; and a third operated on by Mr. Paul Swain, of Plymouth, lost but one ounce and a-half.—*Canadian Journal of Medical Sciences.*

[Davy's Lever compresses the common iliac artery against the lumbar vertebræ, being introduced into the rectum. The rectal end is graduated to inches, so that the surgeon who applies the lever can readily determine the position of the end when it is introduced into the rectum. It consists of a straight cylinder of hard wood, about two feet long, most carefully turned and smoothed. Its circumference is two inches, but at each end it is enlarged for a distance of 3 or 4 inches to a circumference of $2\frac{3}{4}$ inches.]

SELECTED PAPERS.

LECTURES ON GLAUCOMA AND IRITIS.

By CHARLES HIGGENS, F.R.C.S.E.

Iritis may have a local or constitutional cause, the latter being the more common.

Local Causes.—Irritation by foreign bodies in the conjunctival sac or cornea, by granular lids or inverted lashes affecting primarily the conjunctiva or cornea, the iritis being secondary.

Injuries of the iris itself by operations; or accidents with or without lodgment of a foreign body on its surface, or in its substance; pressure by a swollen crystalline lens, as when that body has been wounded and a traumatic cataract formed; exposure from perforation of the cornea.

Constitutional Causes.—Debility following acute diseases, or from over lactation, etc.; certain specific diseases, as syphilis, rheumatism, and gout.

Symptoms.—Certain symptoms are met with in most cases of iritis. These are—change of color, cloudiness and loss of polish of the iris; sluggishness or complete immobility and (as a rule) contraction of the pupil; injection of ciliary region (ciliary redness), watering of the eye, and impairment of vision. Other symptoms met with occasionally are—pain, intolerance of light, new growths or formation of pus upon the iris, irregularity in outline of the pupil, slightly increased tension of the globe, the appearance of bloodvessels upon the iris, and opacity of aqueous humor.

Forms of Iritis.—Iritis has been divided into a great number of different forms, the basis of division being founded on the constitutional cause, or upon the nature of the inflammatory products. Thus we hear of syphilitic, rheumatic, and gouty iritis; traumatic iritis; serous, plastic, and suppurative iritis.

I think we may be content with three forms of the disease, viz.: 1. Simple iritis; 2. Rheumatic or recurrent iritis; 3. Syphilitic iritis. Between these three there are, as a rule, no very strongly marked lines of distinction, but cases more or less typical do occur, between which you should know the points of difference.

Simple Iritis generally depends on some of the local causes

already mentioned, or an attack may come on during acute inflammation of the conjunctiva, or be caused by exposure to cold—more especially cold winds or draughts.

All the more constant symptoms of iritis are present, often accompanied by more or less severe pain. An uncomplicated case may last from two to three weeks or longer. A few adhesions may form between the iris and lens capsule (posterior synechiæ), but the inflammation ends in resolution, the iris quite recovering its normal condition. In this as well as in the other forms of iritis, however, the inflammation may run on to the formation of a considerable quantity of new material or into suppuration.

Recurrent or Rheumatic Iritis is said to occur in persons who are subject to attacks of rheumatism or gout, and also in the children of rheumatic or gouty parents. An attack of this form of inflammation presents all the more constant symptoms of iritis, and has one character peculiar to it, viz., its recurrency, some patients having had as many as twenty or more separate attacks. In some cases the attacks observe a remarkable periodicity, recurring regularly at the same time of year. The inflammation appears at times in one eye, at others in the other, or perhaps in both—rarely, however, simultaneously, but at short intervals, the second eye becoming affected long before the first has begun to recover. Recurrent iritis may be accompanied by more or less haziness of the cornea.

In some cases very severe pain of a dull aching character is experienced in the eyeball, forehead, side of the nose, and temple; in others the attack is most insidious, the patient's attention not being attracted until a considerable amount of new material has been thrown out, extensive adhesions formed, the sight of one eye become much impaired, and the inflammatory action commenced in the other. The cause of recurrences is not very clear; it may be due to constitutional vice, to synechiæ, or more probably to the two combined.

Syphilitic Iritis.—The syphilitic is probably the most common of all the forms of iritis. A typical case presents all the constant symptoms in a very marked degree, the zone of ciliary redness being extremely well defined. There may be, besides, certain peculiar nodular excrescences of a dirty yellow color (known as lymph nodules), situated on the surface of the iris, or at its pupillary mar-

gin, and sometimes extending in the pup'il, which is completely blocked by them. These excrescences are syphilitic gummata, and their existence renders the diagnosis of syphilitic iritis certain ; they are, however, only occasionally present, and in the greater number of cases we have to take into consideration the patient's previous history, ascertain the existence of other signs of syphilis, and make our diagnosis accordingly. Syphilitic iritis occurs most frequently between the ages of fifteen and forty, but is occasionally met with as a manifestation of syphilis in infants, and may, of course, occur in old people.

Results of Iritis.—In many cases of iritis, especially if *early and properly treated, perfect recovery takes place.* Remember this, as it is to you, as general practitioners, that patients first apply, and the favorable or unfavorable termination of the cases will often depend on the treatment you adopt. In others permanent signs of inflammation are left. The morbid changes most commonly seen are adhesions to neighboring parts (synechiæ) ; those most commonly met with being between the iris and lens capsule (posterior synechiæ).

Posterior synechiæ are generally situated at the pupillary margin, and may vary in extent from a few adherent tags of this part only, to complete adhesions of the whole posterior surface of the iris to the lens capsule ; this latter condition being known as “total posterior synechiæ.”

Adhesions of the iris to the cornea, “anterior synechiæ” (should they occur as the result of iritis), will be found about its greater circumference.

Closure of the pupil by inflammatory material, *opacities upon the lens capsule* caused by adhesion of the “uvea” detached from the posterior surface of the iris, dense inflammatory deposits in or beneath the capsule, or involving the superficial fibres of the lens itself—“*capsular or pyramidal cataract*,” as they are called—may also be met with.

The iris may be found atrophied, so that little of its original structure can be recognized ; rigid, or rotten, and very prone to bleed freely on the slightest wound. All these conditions become most apparent when operating upon it. On attempting to perform iridectomy, considerable difficulty will be experienced in removing

a portion of the iris, which may be so tough that none can be torn away, so rigid and tightly stretched that it cannot be seized with forceps, or so rotten that only a small portion can be removed, or it may bleed so freely as to prevent the completion of the operation.

Treatment.—In treating iritis we must take care *first* to remove any local cause, such as a foreign body (wherever situated), or opaque swollen crystalline lens, cure granular lids, or remove inverted lashes. *Secondly*, we must endeavor to dilate the pupil. *Thirdly*, to relieve pain. *Fourthly*, we must employ any constitutional treatment that may appear called for. I have already told you how to carry the first indication when speaking of foreign bodies in the cornea, trichiasis, granular lids, etc. In order to dilate the pupil a few drops of a strong solution (gr. iv. to $\bar{\text{v}}$ j.) of sulphate of atropia should be placed between the eyelids by the surgeon himself at each visit, and a weaker solution (gr. $\frac{1}{4}$ to gr. j. to $\bar{\text{v}}$ j) should be given to the patient to use from three to six or twelve times a day. If the case be seen at the commencement, more or less dilatation of the pupil will usually take place; but should the iris have become infiltrated with inflammatory matter, and adhesions formed, little or no effect will be produced; the atropine should, however, be persevered with. Let me impress the necessity for dilating the pupil upon you; it is of the first importance, and, as I have told you already, it is to you that a patient attacked by iritis will first apply, and it depends in a great measure on your treatment in the early stage whether the case is conducted to a favorable termination, or the reverse. Remember, dilate the pupil. If you are doubtful whether the case is one of iritis or not, give the patient the benefit of the doubt; when in doubt use atropine—the cases in which it can do harm are rare, whilst those in which it will do good are common. In rare cases of iritis with suppuration the eye should be fomented frequently with hot belladonna lotion, and kept bound up with lint soaked in the lotion.

In cases accompanied by much pain, blood should be taken from the temples by leeches or the artificial leech. Atropine may give rise to pain by causing dragging upon adhesions; it should therefore be used with caution in cases where its application is attended by much suffering, and it has no influence on the pupil. Atropine occasionally causes an erysipelatous inflammation of the eyelids and

cheeks, known as "atropism." Should this occur the parts should be well smeared with zinc ointment or vaseline, and a substitute found for atropine. There are several drugs which may be used instead of atropine: but, unfortunately, persons who are intolerant of one are not much better off with the others. Nevertheless we must try a solution of daturine, hyoseyamine, sulphate of duboisin, gelsemia, or homotropine, made of the same strength as the solution of sulphate of atropine, or the atropine may be tried in the form of ointment (gr. $\frac{1}{4}$ of sulphate of atropine to \mathfrak{z} j. of vaseline) applied to the inner surface of the lower eyelid two or three times a day.

The eyes should be protected from light by a shade or protector until the inflammation has subsided. Treatment must always be continued until all "ciliary injection" has disappeared.

Of *constitutional remedies* there is none so useful in the treatment of iritis as *mercury*. Now let us consider in what cases it should be given; and first dismiss from your minds all considerations as to whether the iritis be or be not syphilitic. The one indication for the administration of mercury is the existence of lymph on the iris. Do not bother about syphilis, but if you see lymph on the iris give mercury. The drug may be given three times a day, in a pill containing gr. ij. of pil. hydrarg. and gr. $\frac{1}{4}$ of pulv. opii. Mercurial inunction or vapor baths may be employed if preferred, but the system should be quickly influenced, and the effect kept up until the lymph has disappeared. If the iritis occur in persons of delicate health, or the inflammation go on to suppuration, tonics—as iron or quinine—should be prescribed, and a plentiful supply of good food given. Should there be much pain, opium must be given, and it is well to prescribe the drug in combination with extract of belladonna or hyosciamus.

The results of iritis, should they seriously interfere with vision, require the performance of iridectomy or some one of the operations for artificial pupil. Iridectomy should also be performed in cases of recurrent iritis; it frequently (but not always) prevents subsequent attacks.

GLAUCOMA.—By glaucoma we understand—"A series of morbid changes of the eyeball, the most prominent of which, and apparently that which cause all the others, being an increase of tension of the globe."

The increase of tension is supposed to result from undue accumulation of the intra-ocular fluids, dependent on hyper-secretion or deficient removal.

Why the balance between the two processes of secretion and removal of secreted fluid should be disturbed is not very evident. It is believed, however, that the intra-ocular fluids are partly removed by exhalation through the sclerotic and cornea, more especially at their junction at the angle of the anterior chamber, and partly by absorption.

It has been found that in most cases of glaucoma the iris is applied to the cornea in such a manner as to completely block the angle of the anterior chamber, whereby a considerable barrier is placed in the way of removal of fluid through this part.

Other causes are alteration in structure of the cornea and sclerotic, such as may be supposed to occur in advancing age, and analogous to the changes met with in bloodvessels and other parts.

Whatever may be the cause of the deficiency in the process of removal of the intra-ocular fluids, if secretion go on at the usual rate, we shall get an excess, and with it increased tension of the eyeball.

On the other hand, sources of irritation which cause hyper-secretion may set up glaucoma; we meet with it in cases where the lens is swollen, in cases of anterior synechia where there is constant dragging by the iris upon its two attached points, viz., the normal adhesion to the cornea and its normal ciliary attachment, which is closely connected with the ciliary body. The ciliary body is the most vascular and highly nervous portion of the eyeball, and any dragging upon it is likely to cause increased secretion of intra-ocular fluids, and with it augmentation of tension of the globe.

Other conditions—as extensive posterior synechia with “exclusion” or complete closure of the pupil, may lead to hyper-secretion, but will also retard removal of fluid by keeping the aqueous humor confined behind the iris, which is pushed forward by it, the anterior chamber becoming very shallow. Glaucoma arising from any of the latter causes, or coming on in the course of iritis, corneitis, or other inflammations of the eyeball, is known as “secondary glaucoma.”

Glaucoma may also arise from injury, when it is known as traumatic glaucoma.

Glaucoma is said to be *simple* when the increase of tension progresses slowly and continuously without inflammatory outbreaks ; *acute* or *chronic* when attended by attacks of inflammation.

Simple glaucoma presents no very marked symptoms, its onset being most insidious. Its chief characteristics are—gradual decrease of acuteness of vision, with narrowing of the visual field ; impairment of the power of accommodation, causing rather rapid increase of presbyopia, sluggishness of movements of the iris, apparently some haziness of the lens, and some dilatation of the pupil. Increase of tension, is probably one of the earliest symptoms, but is very liable to be overlooked until the disease is far advanced, and considerable hardness of the globe has taken place. With the ophthalmoscope, spontaneous pulsation of the retinal arteries may be seen, or pulsation may be produced by very slight pressure upon the globe. The vessels, especially the veins, are thinner on the surface of the optic disc than in the surrounding retina, small retinal hemorrhages may occur, and the disc itself may be more or less cupped and atrophied. The cup of glaucoma is characterized by a bluish or dusky red appearance of the greater portion of the disc ; upon this portion the vessels appear very small and indistinct, or they may be quite invisible ; the margin of the disc is white, and the large tortuous retinal vessels are seen curling up over its edge, and appearing on the surface of the retina at a point not continuous with their course upon the nerve surface. Sooner or later, in any form of glaucoma, if relief be not given, the condition known as *absolute glaucoma* is established.

The eyeball becomes stony hard, the pupil widely dilated and fixed, the cornea steamy and anæsthetic, the iris and aqueous humor discolored, the anterior chamber shallow, and the lens more or less opaque. A few dilated veins may be seen issuing from the globe in the ciliary region ; the sclerotic may be somewhat bulged in places and appear bluish in color ; the ocular structure become rotten, the conjunctiva tearing on any attempt being made to seize it with forceps, and if we attempt an iridectomy the iris gives way under the iris-forceps. On examination with the ophthalmoscope, all appears dark behind the pupil, or perhaps a dull-red reflection may be returned from the interior, but no details of the fundus can be made out—all perception of light is lost.

Acute glaucoma usually commences more or less suddenly, but both it and the chronic form may be preceded by a premonitory stage resembling in its symptoms simple glaucoma. Its outbreak is marked by severe inflammatory symptoms. The patient states that he was seized frequently during the night with sudden pain in the eye. The pain is very severe, and is described as affecting not only the eyeball, but the whole of the corresponding side of the head. The sight of the painful eye is greatly impaired or entirely lost. On examination we find the eyelids slightly reddened and swollen, the conjunctiva somewhat chemosed, and its vessels, together with those situated more deeply in the subconjunctival tissue, enlarged. There may be profuse lachrymation, and often much intolerance of light; the aqueous humor is very probably somewhat turbid.

The pupil is, as a rule, dilated, somewhat irregular, and fixed, and the tension of the globe is much increased. On examination with the ophthalmoscope, some of the appearances mentioned under Simple Glaucoma may be found; but the media will probably be so hazy as to obscure the parts behind, a dull red reflection being all that can be made out. The acute symptoms usually pass off in the course of a few days or weeks, leaving the eye more or less permanently damaged. Similar attacks may recur, but more frequently the disease relapses in a chronic state.

There is one form of acute glaucoma, known as "*glaucoma fulminans*," which is characterized by the extreme suddenness of its onset, the rapid extinction of vision, and the great and rapid increase of tension. In such cases all sight may be irrevocably lost in the course of a few hours. It is, however, astonishing how vision may be restored in some of these apparently hopeless cases by a well performed iridectomy. The violence of the symptoms in these cases is very probably due to intra-ocular hæmorrhage, the blood being poured out between the sclerotic and choroid.

An attack of "*glaucoma fulminans*" is sometimes accompanied by severe headache and vomiting, so that we might fall into the error of mistaking such a case for one of cerebral disease or simple biliousness.

Chronic glaucoma is the form of the disease most commonly met with; it is characterized by the occurrence of slight inflammatory attacks, associated with temporary dimness of vision (transient

cloudiness and obscuration of the fluid), and more or less pain in and around the eyeball. On examination, the tension of the globe is found to be increased, and if the patient present himself during an inflammatory attack, the conjunctival and subconjunctival tissue are found unduly vascular; the pupil is somewhat dilated, and the movements of the iris extremely sluggish or altogether wanting.

The loss of vision in cases of chronic glaucoma is often attended by somewhat peculiar symptoms. Patients complain that their sight is always somewhat misty; that there is an appearance of a bright halo around a candle or other flame; that they see colors resembling a rainbow, and often of great beauty; and occasionally complaints are made of flashes of light and fiery circles. These latter symptoms are, however, common to all forms of retinal irritation. Vision is always greatly impaired during the inflammatory attacks, and recovers to a certain extent during the remission—never, however, returning to the same condition as before the attack.

The ophthalmoscope shows changes similar to those mentioned under Simple Glaucoma. Glaucoma is essentially a disease of the latter half of life, occurring most frequently between the ages of forty and sixty; but occasionally cases are met with in young adults, or even in children. In these, however, it is usually what I have described as secondary glaucoma. Glaucoma (except it be secondary or traumatic) almost always affects both eyes, not, however, simultaneously, but at more or less considerable intervals.

In order to diagnose glaucoma we must be well acquainted with the method of ascertaining the tension of the globe, and also with the use of the ophthalmoscope. We must also remember that the injurious effects of pressure are evidenced earliest in the peripheral portions of the retina, and must therefore very carefully examine the condition of the visual field in all suspected cases.

Cases of simple glaucoma will frequently be met with in which great contraction of the visual field has taken place, although central vision may still be acute. A symptom already mentioned, but often overlooked, which should lead us to suspect glaucoma, is the rapid increase of presbyopia. Patients affected by the simple or chronic forms of the disease are constantly changing their glasses. They find that those which at first appear to suit well, become useless in the course of a few months.

The apparent haziness of the lens is a symptom requiring special attention, otherwise we may fall into the fatal error of mistaking chronic or simple glaucoma for cataract, and allow the disease to continue unchecked until sight is irrevocably lost. Ophthalmoscopic examination will most probably show that there is little or no real opacity of the lens; this, aided by a careful examination of the tension of the globe and the state of the visual field, should guard us against making so disastrous a mistake. This apparent haziness of the lens is not a part of the glaucomatous process, but merely a natural senile change. You may ask, Why should stress be laid upon it as a symptom? Here is the reason. In normal eyes the pupil becomes contracted as age advances, and the hazy appearance of the lens, although present, is not noticed in its limited area. In glaucoma, however, the pupil is dilated, and the bluish haze becomes very evident, and arrests the attention. And many are the cases I have seen where cataract was diagnosed, and left to become "ripe," with the result that the patients were hopelessly blind.

Treatment.—Glaucoma can be remedied *by operation alone*, and it is our duty to explain to the patient the nature of his case, and to urge upon him most strongly the *necessity* for operative interference.

Patients suffering from glaucoma often evince the greatest unwillingness to undergo an operation. This unwillingness is explained by the fact that during the *remissions* of glaucoma little or no inconvenience is experienced, and moreover, even at the time that an attack of inflammation is present, the sufferer will be encouraged by the hope that the symptoms will pass off (as they, in all probability, have done in previous attacks), leaving the eye but little damaged. Nevertheless, we must always bear in mind that *an operation to be successful must be performed early*, and must not rest satisfied until we have convinced our patient of this. Most patients will readily submit to an operation when one eye has been lost, and the disease has commenced in the other.

Several operations have been practised for the relief of glaucoma, but iridectomy and sclerotomy give the best results.

Iridectomy or sclerotomy, to be effectual, should be performed as early as possible. As a rule, no good is likely to result from an

operation in cases where vision has been reduced to bare perception of light; but in acute glaucoma much improvement may take place, even though all perception of light have been lost for some days.

In performing iridectomy for glaucoma we must take care to remove the iris well down to its ciliary border, so as to thoroughly open the angle of the anterior chamber, and to excise a good broad piece. Merely cutting away a portion of iris near the margin of the pupil does no good. Both iridectomy and sclerotomy are easy enough of performance in cases of acute glaucoma, but in those of old standing the structures become so rotten as to render iridectomy anything but an easy procedure, and the anterior chamber becomes so shallow as to render the introduction of the iridectomy or sclerotomy knife extremely difficult.

In cases of glaucoma, where for any reason an operation cannot be performed, we may do much good by the use of sulphate of eserine in solution of gr. iv. to ʒj. of water dropped into the eye three or four times a day. The action of eserine is to contract the pupil, and it probably does good by spreading out the iris and drawing it out of the angle of the anterior chamber, where it is, as it were, rolled up in the widely dilated condition of the pupil met with in glaucoma. Atropine, must on no account be used; its action is opposite to that of eserine—it causes the pupil to dilate still more widely, tends to increase the tension, and aggravates all the symptoms.

Besides using eserine, we must do our best to relieve pain by the use of fomentations of poppy-heads, application of leeches to the temple, and administration of opium. But remember that all these remedies are at the best only palliative; glaucoma can be cured by operation alone, and the sooner you convince your patients of this, the better.

In speaking of simple glaucoma I pointed out to you how it was often mistaken for cataract, and also told you how to avoid making such a mistake.

Another error, the result of which may be most disastrous, is to mistake acute or chronic glaucoma for iritis. Attention to the condition of the pupil and tension of the globe will prevent such a mistake being made.

In primary glaucoma the pupil is fixed or very sluggish and dilated, and the tension of the eyeball is always much above par.

In iritis the pupil is fixed or sluggish, and almost always contracted; and the tension of the eyeball is normal or very slightly increased.

In some cases of secondary glaucoma, where there is, or has been, severe iritis, the condition of the pupil will not be of much assistance, as it will probably be contracted. In such cases we must rely on the tension alone.—*Medical Times and Gazette*.

THE SELF-LIMITED DURATION OF PULMONARY PHTHISIS.

By AUSTIN FLINT, M.D., LL.D.,

Professor of the Principles and Practice of Medicine and Clinical Medicine, Bellevue Hospital, New York.

My object in this paper is to show that pulmonary phthisis may have a self-limited duration; that, in a certain proportion of cases, this disease ends favorably, irrespective of any appreciable extrinsic agencies, recovery taking place, provided the nature and extent of the local lesions be not such as to render them either irreparable or innocuous. If the doctrine of self-limitation as applied to phthisis be not entirely new, it has, at all events, received very little consideration in medical literature and in medical practice. If the doctrine in this application be true, it has important pathological and practical bearings, to some of which I shall briefly advert.

How is self-limitation to be proved as applied to phthisis or to any other disease? Facts pertaining to morbid anatomy and to therapeutics may render the application of the doctrine probable; but, evidently, positive and complete proof can only be afforded by a collection of cases in which the disease pursued its course without active interference in the way of treatment, either medicinal or hygienic, and without notable changes in habits of life, or in any of the conditions under which the patients were situated when the disease became developed. For obvious reasons these requirements for

absolute proof are not easily obtained in cases of a disease like pulmonary phthisis. Yet cases involving these requirements occasionally come under medical observation. The hopeful mental state which generally accompanies phthisis sometimes leads patients to trust altogether to nature for restoration to health, and to continue their usual manner of living without any alteration. Some patients do this from a conviction that they have not a malady of sufficient consequence to claim attention, beyond, perhaps, palliative remedies; and some from circumstances which render it difficult to do otherwise. Again, there are phthisical patients who do nothing in the way of either therapeutics or hygiene from a thorough scepticism as to the advantage of doing anything.

In 1858, I had collected a considerable number of histories of cases of phthisis, recorded during the preceding twenty years of medical practice, and I was led to examine the collection for those cases in which there had been an arrest of the disease. Twenty-four cases were in this category. The histories of these twenty-four cases were analyzed with reference to points of agreement must lie the means by which the disease had been arrested, provided these points of agreement were not equally common in other cases in which the disease was not arrested. A striking result of this analytical study was, that in a few cases no appreciable influences, either of medication, diet, or regimen, had been brought to bear on the disease; the patients took no active remedies, and continued unchanged the same habits of living as before the development of the disease. It seemed a logical inference that in these cases the disease was not arrested, but that the recovery was owing to an intrinsic tendency thereto. An abridged account of the histories of these twenty-four cases was embraced in a report published in the *American Journal of Medical Sciences*, January, 1858.

In 1863, I had accumulated additional cases. The number amounted to sixty-two. These cases were studied analytically in the same way as those analyzed in 1858. In seven cases, no medicinal or hygienic measures of management were employed. The recovery in four of these cases was complete. In three cases good general health had been regained and maintained for a long period, some cough and expectoration remaining. An abstract of the histories of the sixty-two cases was published in the *Transactions of the New York Academy of Medicine* for the year 1863.

In 1875 were published, in a work entitled *Phthisis in a Series of Clinical Studies*, the results of an analysis of the histories of all the cases of phthisis which I had recorded during thirty-four years, the number being 670. Of these 670 cases forty-four ended in recovery. Details of the histories of each of the forty-four cases are given in the work sufficiently to render evident the recovery and the correctness of the diagnosis. In addition to these forty-four cases, there were thirty-one cases in which the disease ceased to progress, and remained non-progressive for at least several months, and in most instances for several years. In these thirty-one cases, the phthysical disease was considered as having ended, complete recovery not taking place in consequence of irreparable lesions. As cases for analytical study with reference to the agencies which may have caused the arrest of the disease, these thirty-one cases of non-progressive phthisis seemed hardly less valuable than the forty-four cases which ended in complete recovery. Adding together the two groups of cases, out of the 670 recorded histories of phthisis, there were seventy-five in which the disease either ended in complete recovery or remained for a long period non-progressive.

Of the forty-four cases ending in recovery, in twenty-three there was no medicinal treatment to which arrest of the disease could be attributed. In several of the twenty-three cases there was no medicinal treatment; in the remainder of the cases, the treatment consisted of simple tonics, palliatives of cough, or remedies to meet some other symptomatic indications. Of the thirty-one cases of non-progression of the phthysical disease without complete recovery, in fifteen there was no medication by which it might be supposed the disease had been controlled, and in several no medicinal treatment whatever. The two groups of cases—namely, those ending in recovery, and those becoming non-progressive without recovery—thus furnished about an equal proportion of those in which medicinal treatment was either wanting, or in no degree curative, the proportion in the first group being twenty-three of forty-four, and in the second group fifteen of thirty-one. In respect of hygienic or non-medicinal treatment, in some cases of both groups there was no change whatever in habits of life or other circumstances. In other cases there were changes involving improved hygienic conditions, but in a considerable number the changes were such

that a potential influence could not be attributed to them. It is probably correct to say that the changes may have favored the recovery or the non progression, but that they were inadequate to arrest the disease. In my work is introduced a condensed history of each of the seventy-five cases, which form the two groups now referred to.

A self-limited duration cannot be inferred from a single case, or from a very few cases, for this reason ; the course and termination may have been affected by influences which are extrinsic, but not apparent. In order to obviate liability to error on this score, the number of cases must be sufficient to render it impossible, or vastly improbable, that in all such influences could have been overlooked. It is needless to say that the cases from which the inference of self-limitation is drawn must have been carefully observed and honestly recorded. Another requirement is essential—namely, there was no room for distrusting the accuracy of the diagnosis. Assuming competency for observation and veracity, the diagnosis in each of the seventy-five cases is attested by the recorded histories and it will be admitted that the number of cases is sufficiently large for the exclusion of error on the score of unrecognized extrinsic influences. The number of cases might be increased by the addition of those which have come under observation since 1875. This seems to me needless with a view to strengthen the conclusion respecting self-limitation. I therefore submit, as substantiated by the clinical facts which I have cited, the following proposition : Pulmonary phthisis, in a certain proportion of cases, has a self-limited duration, the disease ceasing to exist after more or less progress of the local affection, all symptoms referable to the lungs disappearing, and recovery, as regards the general health, being complete. The disease is also self-limited in a certain proportion of cases in which lesions remain, giving rise to more or less of cough and expectoration, the persistence of these lesions not being incompatible with good general health and long duration of life.

It is an interesting fact that self-limitation is exemplified in the majority of the fatal cases of phthisis. As is well-known, the disease, as a rule, advances not by a continuous progress, but by a series of successive invasions, separated by variable intervals. After each invasion, or, as it has been termed, tuberculous eruption, there is a

temporary self-limitation of the disease. I will not venture on a discussion of the question whether this fact should be sufficiently explained by the statement that each eruption of tubercles for a time exhausts the tuberculous cachexia, or whether the fact be owing to the production of successive broods of the bacilli tuberculæ. It suffices to state the clinical fact. The fact suggests a capital object in the treatment, namely, prevention of a renewed invasion. The continuous advancement of the disease, as an exception to the rule, is the pathological feature of the so-called "galloping consumption," or phthisis florida.

In the cases ending favorably, which have been referred to as furnishing proof of a self-limited duration, the diagnostic symptoms and physical signs were so well marked, as to leave no room for doubt as to the existence of phthisis. From cases which have come under my observation, I have been led to believe that not very unfrequently phthisis ends by self-limitation without having advanced far enough for the diagnosis to be considered as positive. A patient has had for some time a slight cough, either dry or with a scanty expectoration; there has been some loss in weight, and the body heat is somewhat raised, with, perhaps, spitting of blood. These symptoms, taken in connection with the age of the patient, and, it may be, grounds for suspecting a congenital predisposition, point to a tuberculous affection. But examinations of the chest in such a case may fail to reveal distinct physical signs. Very likely the problem, as regards the physical diagnosis, is to determine whether at the summit of the chest on the right side there are abnormal signs, or only the normal points of disparity between the two sides. There may be found only a subcrepital *râle*, or slight pleuritic rubbing, or an interrupted respiratory murmur at the summit on one side, without conclusive evidence of tuberculous solidification. Under these circumstances, the physician either commits his judgment to a diagnosis of incipient phthisis, or, as is more probable, he reserves an opinion for further developments. After a short time all the pulmonary and general symptoms disappear. Now, if incipient phthisis have been diagnosticated, the physician concludes that the diagnosis was erroneous. He feels obliged so to conclude, in consequence of the common belief that phthisis does not thus commence and end from self-limitation. But it is highly

probable that the diagnosis was correct. Phthisis existed and ended in its incipency. It would be proper enough to distinguish these as cases of abortive phthisis. If I mistake not, all medical observers of much experience will admit that the foregoing sketch represents a class of cases not extremely rare. That they are not very rare is a fair inference from the frequency with which the traces of an old abortive phthisical affection are found in bodies dead with other diseases than phthisis.

A topic of practical importance is the bearing of self-limitation on the prognosis in individual cases of phthisis. The analytical study of my collection of cases showed that, as a rule, in those which ended favorably from an intrinsic tendency, the tuberculous affection was moderate or small in amount, but that there are exceptions to this rule. All observers of much experience will agree that the prognosis in cases of phthisis is to be based more on the general condition of the patient than on the local symptoms and signs. To consider the elements of prognosis would be here out of place, even if time permitted. In general terms, the symptoms which denote tolerance of the phthisical affection, are those which indicate a favorable intrinsic tendency, and, on the other hand, pyrexia, progressive loss of weight, frequency of the heart's action, and anorexia, point to an opposite tendency. Of special importance, in a practical view, is the bearing of the doctrine of self-limitation on the conclusions to be drawn from observations respecting the agency of therapeutic and hygienic measures in the treatment of cases of phthisis. How many and various are the remedies which have been supposed to have been sometimes curative in cases of this disease! Instances of their apparent curative power have been attested by honest observers. Making the fullest allowance for errors in diagnosis, I cannot doubt the credibility of more or less of these cases. Recovery has taken place under the employment of divers remedies; yet these remedies have so generally failed, that, for the most part, they are now obsolete. The explanation of their apparent efficacy is to be found in the doctrine of self-limitation. The disease ended favorably, not from a specific influence of the remedies, but from an intrinsic tendency. This is not saying that the remedies may not have been, to a greater or less extent, serviceable. It may be laid down as a principle applicable

in all diseases that, whenever experience has seemed to show success from treatment by a variety of remedies the efficient cause lies in the disease itself. This principle becomes more evident the more we become acquainted with the natural history of diseases. To accept this principle is not to disparage medicinal treatment. In certain cases of phthisis, as of other diseases, self-limitation is a factor co-working with curative measures, and, as perhaps may be added, sometimes effective, in spite of measures which obstruct its operation. On the other hand, when this factor is feeble or wanting, curative treatment is not likely to prove of much avail. Evidently, in drawing conclusions respecting the curative effect of remedies allowance is to be made for this factor. The extent of its coöperation, doubtless, differs much in different cases, in some being sufficient in itself, and in others either considerable, or moderate, or slight.

The doctrine of self-limitation bears on the climatic and other measures entering into the hygienic treatment of cases of phthisis with not less force than on the employment of drugs. As regards climate, is there a practical theorem more perplexing to the practitioner of medicine than that of selecting the best resorts for phthisical patients, provided the selection be made on the basis of an impartial consideration of the reported results of climatic agencies in different situations? Underlying the exaggerations on the one hand, and on the other hand the depreciations of particular climatic resorts, founded on the different results in a few cases, is the factor of unknown power, self-limitation, the existence of which is generally ignored. Here is the explanation, at least in part, of the discrepancies of testimony concerning the results of climatic influences in different situations.

The extent of influence attributable to self-limitation in phthisis is by no means as yet ascertained. There is ample room for observations bearing on this point of inquiry. Impressed with the importance of clinical studies having this direction, I cannot forbear the remark that they promise more in the way of practical utility than has hitherto been derived from the discussion of the histologico-pathological questions which, of late years, have engrossed so much attention and occupied so large a space in medical literature.


—*British Medical Journal.*

EDITORIAL.

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THE WILMINGTON HOSPITALS.

II 5, Nov 1882.

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Since the war the fate of hospitals in this city has been precarious.

The first one undertaken by the corporation—the Small-Pox Hospital—was forced upon the city by the Freedman's Bureau, in 1865. It remained under this management for nine months, during which time seven hundred and twelve cases of small-pox were treated. Under the charge of the city, there was a great improvement. It was received in a wretched condition. Seven-three negroes, in all stages of small-pox, were confined in rooms with no windows, (the window openings having been boarded up to keep out the cold), males and females intermingling freely. There was no bedding except the sleazy army blankets—or rather they would have been sleazy, had they not been stiff with small-pox fluid. There were no beds or bedsteads or cots, and the vermin were disgustingly numerous. The first day of the occupation by the city, the food sent

to this hospital consisted of ten loaves of bread, and three two gallon water cans of some sort of soup for seventy-three patients. The maggots were so thick in this soup that it was directed to be thrown away, to prevent the half-starved convalescents from greedily devouring it. Five deaths occurred on the first day.

As rapidly as it could be done bedsteads were provided with mattresses, and blankets, the house was literally hoed out, and then scoured and whitewashed. Suitable ventilation was improvised, proper food was prepared, and in a few days the hospital was as well off as most pest-houses. In 1866 this hospital was closed, and there was no city hospital until one was opened in 1870, during the administration of Mayor Martin.

The hospital building then used, was the Marine Hospital on Eighth street between Ann and Nunn. The sick of the city and county, and also the sick from the vessels in port were treated there, at an annual cost of \$7,700 in 1870 and \$12,400 in 1871.

During a subsequent municipal administration this hospital was disbanded, having been in existence a few years. During its existence it was a source of great and embarrassing expense, on account of the large number of sick paupers sent from the adjoining counties lying along the river, and the line of the railroads entering the city.

The charter of the city was so amended that it was made unlawful for the corporation to maintain a hospital. This was considered a much needed change, because of the abuse of the charity spoken of above, inflicting a burden the corporation was not able to incur any longer.

The last Legislature obviated this difficulty, by passing a special act, enabling the city and county jointly to establish a hospital, the county to bear three-fifths and the city two-fifths of the expense.

An entire square was purchased, formerly known as Klein's Beer Garden. There were located on the property a two story building with eight rooms, centrally located, and several small buildings fronting on Walnut and Red Cross Streets. In addition to this there was a building formerly used as a bowling alley, The grounds were nicely laid off and well set in handsome shrubbery.

A year ago the establishment was organized, and put in order for the reception of patients, under the charge of Dr. William Walter

Lane. During the year ending November, 1882, 116 patients have been received to whom 3,529 days of relief were given. The resident physician has paid unremitting personal attention to the surgery, surgical dressings, and dispensing of the drugs.

We have called this matter to the attention of our readers to show how good a beginning has been made in a much needed direction. It is fair to estimate the civilization of a community by the extent and manner of conducting hospitals for the indigent sick, and no community can escape the odium of the neglect of the poor unfortunates.

The report of Dr. Lane to the Board of Managers has been so satisfactory, and the result of his work so good and on such an economical plan, that an additional building will be provided very soon, to make room for its better administration.

The location of the hospital has every advantage for thorough drainage. It comprises an entire square under the control of the surgeon. Patients have ample room for recreation in the open air. There is also ample room for the location of additional buildings.

We have a few suggestions to make, which may not have escaped the attention of the managers.

1. Better accommodations should be at once provided for latrines. It is possible to have nearly a perfect plan at a small cost, by taking advantage of sewerage into Burnt Mill Creek through the east end of the square.

2. The buildings fronting on Walnut and Red Cross Streets should be rearranged, and grouped so as to make them more easily accessible from the central executive building.

3. Means should be provided for the extinguishment of fire, and this means utilized for bath purposes.

4. Especial wards should be prepared for contagious diseases, such as erysipelas, diphtheria and scarlet fever ; small pox, yellow fever and cholera being otherwise provided for.

5. An isolated dead house should be erected.

With these improvements the foundation will be well laid for more satisfactory work.

We have nothing but praise for the way this charity has been conducted, both on the part of the Resident Physician, Dr. Lane, and the Board of Managers. We bespeak from the public a liberal

support. It is needless to point out to a community, the ladies of which lent such a willing hand to provide comforts for the suffering sick through four years of calamitous war, how much they can do to help on this work, and how much is needed beside the provision made by the hospital authorities, to relieve the weariness of the sick bed.

SENDING LETTERS BY PATIENTS.—It is worth while to observe a little caution when you send a patient to the care of a medical friend at a distance, as to whether she (it is usually a woman) is to be fully trusted as the bearer of a letter describing her case. A French Journal reports that a lady being sent under such circumstances to some baths, was seized with curiosity to know what her medical attendant had said about the obscure disease from which she suffered. The diagnosis and recommendation for treatment which she found was this—"Mon cher confrère, je vous envoie une oie à plumer. Déplumez la sans trop la faire crier."—*Boston Medical Journal*, September 14.

THE INSANE COLONY AT GHEEL.—An American physician, visiting this colony, reports unfavorably of it. "Gheel," he says, "may do for Belgium, but not for us. Even in Belgium things are changing greatly from year to year; and from statements of inhabitants of Gheel it is only a question of time when this system will have to be given up. In the country the lunatics are miserably taken care of; and in town, where men and women go about unaccompanied, results easily anticipated occur. In one case the family used the patient's blanket in a winter night; in another the patient was abused; a third had a female patient who had become pregnant; a fourth became vacant for the same reason. I should judge that there is more trouble on this score than is admitted. The fact that there are now 200 vacant beds in the colony corroborates the statement that this system will have to be abandoned. Heretofore I had entertained some poetical ideas concerning Gheel; the prose that I now saw was sufficient to dispel them. The guide told me that the majority of visitors went no further than the town. Having myself seen more of the country than of the town, I may have seen less of the good features and more of the bad than is usually the case.—*Phil. Med. Times*, August 26.

REVIEWS AND BOOK NOTICES.

THE PHARMACOPEIA OF THE UNITED STATES OF AMERICA. Sixth Decennial Revision. By Authority of the National Convention for Revising the Pharmacopœia, Held at Washington, A. D., 1880. New York : William Wood & Company. 1882. Pp. 488.

Over two years ago the Sixth Decennial Convention for revising the Pharmacopœia, met in Washington, D. C. From that body was elected a committee of twenty-five physicians, chemists and pharmacists, to thoroughly revise the pharmacopœia of 1870, and bring it up to the advanced standard of the present condition of pharmacy and chemistry. The volume has just been published, after a most laborious revision, extending over two and a half years.

The Pharmacopœia of 1880 differs considerably from the previous issues.

1. The Titles run continuously through the volume in alphabetical order. The old division into *Materia Medica* and *Preparations* being abolished.

2. The chemical and botanical descriptions of articles have been carefully re-written, especially the latter has been amplified and corrected, and both brought up to the most recent scientific usage.

3. The introduction of parts by weight is the most noticeable change which has been made in working formulæ. This, however, does not apply to the preparation of fluid extracts, which are still made so that a definite quantity represents a definite weight of the crude material. For instance *tinct. nux vomica* is so prepared that it represents 20 parts by weight of dried powdered *nux vomica*, in one hundred parts by weight of the finished tincture. In all cases where it has been possible a modified decimal system has been adopted, maintaining the ratio of 1 to 5, 10, &c., and multiples thereof. So that as far as possible the tinctures for example represent 10, 20 or 40 per cent. of the crude drug.

4. The metric system has only been employed exclusively in the chemical tests, while in some formulæ, those for *Troches* for instance, the weights in grains and grammes are given. For linear measurement, feet and inches are given, with the metric equivalent in parenthesis.

5. In nomenclature the most noticeable change to the physician will be the Latin termination—*ina* for alkaloids, and the corresponding English names in—*ine*. For instance: L. *quinina*—E. *quinine*. Neutral principles have the intermination *ic*—*inum*—*Picrotoxinum*.

6. Many new articles have been admitted and many dismissed, leaving an increase of 27 in favor of the new work. Among the additions may be named a new class of preparations known as *Abstracta*. These are intended to supply the demand for powdered extracts. They are made by triturating the extract with sugar of milk and alcohol, giving a finished product just twice the strength of the crude drug, or about twice the strength of the corresponding fluid extracts. General directions for preparing Triturations, and Tinctures from Fresh Plants have been introduced, to insure uniformity in their preparation if prescribed by physicians.

7. It has been the aim and desire of the Committee to maintain the same standard of strength as in former editions, and to avoid any mistake a table of relative strength has been appended.

8. Valuable tables have been appended showing the s. q. of corresponding percentages of mineral acids and alkalis. Henner's alcohol tables, Saturation tables showing the quantity of officinal alkalis required to saturate 100 parts of an officinal acid, together with the quantity of the product.

These are some of the more noticeable changes in the present Pharmacopœia, but all through the volume the physician especially will be interested in the composition of well known drugs.

Dover's Powder.—In this well-known preparation, we have substituted in the place of sulphate potassium (which was only added to dilute and further divide the powdered opium and ipecac) sugar of milk. The formula is expressed:

IPECAC, in No. 60 powder, <i>ten parts</i> ,	10
Powdered opium, <i>ten parts</i>	10
Sugar of milk, in No. 30 powder, <i>eighty parts</i>	80
<hr/>	
To make one hundred parts,	100

A Tincture of Ipecac and Opium, has been made official, and will be a welcome addition.

Petroleum Jelly.—This substance, now well known to the

profession as a valuable basis of ointments under the name of cosmoline, vaseline, petrolinum, &c., has been admitted under the newly made name—*Petrolatum*. So many names for this substance had been copyrighted that it was not easy to coin one sufficiently euphonious and expressive to meet the views of the Committee of Revision.

Two forms of this preparation are made official: One with a melting point at 104° F., the other at 125° F. The expediency of having two preparations will be obvious.

The appearance of the new Pharmacopœia as to mechanical execution is all that could be devised. New type was cast for it expressly, and the letter press is clear, distinct and attractive.

The committee does not claim that their work is perfect, and they earnestly desire the suggestions of any druggist or physician, so that before the supplement is published, five years hence, corrections and improvements may be duly considered. We learn that the first edition has already been exhausted, and that a new edition is expected this month, when all can be supplied. We have no doubt that this work will easily take its place as the standard, and will be better known than any former revision. Whereas now a copy of the Pharmacopœia is a rare book in the doctor's or the druggist's library, it will in the future be indispensable.

A SYSTEM OF SURGERY; PATHOLOGICAL, DIAGNOSTIC, THERAPEUTIC, AND OPERATIVE. By SAMUEL D. GROSS, M.D., LL.D., D.C.L., Oxon; LL.D., Cantab., etc., etc. Illustrated by Upwards of 1600 Engravings. Sixth Edition. Thoroughly Revised and Greatly Improved. In Two Volumes. Philadelphia: Henry C. Lea's Son & Company. 1882. Pp. 1194 and 1174.

American Surgery may well be content to accept the standard which has been set in such a masterly manner by Professor Gross. If the first edition of this work was considered a huge undertaking for an American author, what valuation must be placed upon these superb volumes just issued.

"Every chapter has been thoroughly revised, many portions have been entirely re-written, and a large amount of new matter has been introduced, in order to place the work fully abreast of the existing state of our knowledge." Prof. Gross has called to his

assistance eminent specialists making many chapters more complete than in former editions, while in no part of the volumes do we miss the personal work of the master.

There are special features in this work well known to all, but illustrating one of the traits of Prof. Gross' authorship which has inspired confidence among the vast number of readers who daily consult it. We refer especially to the steadfast views which he has held in regard to the value of blood-letting in inflammation. While the pendulum of antagonistic opinion has swung far away in the opposite direction from his teaching, we notice that the drift of opinion is fast setting in towards his views. Blood-letting, he says, "was not overestimated by the older writers when they designated it as the 'great remedy' in the treatment of inflammation; yet, strange to say, blood-letting, notwithstanding the high rank formerly occupied, as an antiphlogistic agent, has, of late, fallen very much into disrepute, not only in Europe, but on this side of the Atlantic, where it had at one time so many advocates. * * * To what is this change due? Is it justly attributable, as has been asserted, to a modification of the type of disease, and to a gradual diminution of the strength of the American people? If it be I have not been able to discover it. On the contrary, I am perfectly satisfied that inflammation possesses the same characteristics now that it did formerly, and it is equally clear to my mind that patients bear depletory remedies quite as well now as they did then. The change has been the result of the natural progress of events; of a more thorough and enlightened knowledge of pathology, diagnosis and therapeutics; and, in some degree, of the pernicious influence which a few prominent and distinguished teachers have exerted upon the professional mind. Authority never fails to have followers, so much easier is it to be led than to think. The result is that bleeding is no longer fashionable; it is denounced by nearly every one. For myself, I cannot but regret this change, for it requires no argument to show its fallacy. If formerly we bled too much, too frequently, too copiously, and too indiscriminately, it is equally certain that the operation is not employed often enough at the present day. Many a deformed limb, blind eye, enlarged spleen, crippled lung bear testimony, in every community, to the truth of this remark." Pp 77.

It is very evident that the tendency to adopt these views is more perceptible year by year, and we predict that bleeding will not be considered a lost art in the early future.

While in the preface Dr. Gross speaks of Lister as one of the world's eminent benefactors for having taught surgeons the value of thorough cleanliness in their operations and dressings, still it is plain that he is not much of a Listerian in practice. We find under the head of Treating and Dressing Wounds, Vol. 1, p. 346, the following: "When the wound is very large, as after amputation of a limb, or the extirpation of the mammary gland, I generally cover the surface with a pledget of lint wet with olive oil or cosmo-line, to prevent the contact of the air and thus diminish the chances of profuse suppuration." (Mark how plainly he ignores the germ notion!) "I have never found any appreciable benefit in such a case from the use of antiseptic dressings, although they are regarded by many surgeons as most valuable accessories." * * * "At the present day, carbolic acid is falling into desuetude. As I have pointed out in the section on septicæmia and pyæmia, it does not prevent the development of micrococci and bacteria in the pus of wounds, and its employment has not only frequently given rise to serious symptoms of poisoning, but it has been followed by death in a number of instances." And in a subsequent chapter Dr. Gross quotes from Paracelsus. "Warily must the surgeon take heed not to remove or interfere with nature's balsam, but protect and defend it in its working and virtue. It is the nature of flesh to possess itself in innate balsam which healeth wounds. Every limb has its own healing in itself; Nature has her own doctor in every limb; wherefore every chirurgeon should know that it is not he, but Nature, who heals. What do wounds need? Nothing. Inasmuch as the flesh grows from within outwards, and not from without inwards, so the surgery of wounds is a mere defensive, to prevent Nature from suffering any accident from without, in order that she may proceed unchecked in her operations." If these sentiments, uttered more than three centuries ago, could only be firmly impressed upon the mind of the modern surgeon, there would be much less meddlesome practice of every kind than there is now, notwithstanding our boasted knowledge, and our contempt for the fathers of the profession." P. 349.

On the subject of anesthetics, Dr. Gross is sound. He has not participated in the alarm so prevalent among northern surgeons, against the use of chloroform. He says (p. 549) "I have now administered it (chloroform) in all kinds of operations in several thousand cases without a single death, and in only three cases did I feel any serious alarm, for the safety of the patient." * * * "I ascribe my own success in the use of chloroform to the extraordinary care with which it has been administered in my practice, to the proper selection of my cases, and to the pains which have always been taken to procure a pure article, preference having generally been given to Squibb's preparation."

The diseases and injuries of the bones occupies over 200 of these large close printed pages, and is re-written with much care. We miss much of the material found in "Hamilton on Fractures," but none the less is this part of the work admirable. We notice (p. 1011, Vol. I) that Dr. Gross speaks of the treatment of fracture of femur by weight and pulley extension, as originally suggested by Dr. Buck. Reference to the *JOURNAL*, January and February, 1878, p. 44 and 114, this question was settled, showing Dr. Daniell, of Savannah, in 1819, first practiced this method in America; and that long before Dr. Daniell was thought of (about 1771) Dr. Groch employed the same method.*

The most noticeable feature in the second volume, is the thorough revision of the special departments of the surgery of the eye, the ear, the throat, and the female organs, developments in which the greatest, or certainly, the most vaunted, advances have been made.

In the surgery of the urethra, Prof. Gross maintains a highly conservative ground. His masterly presentation of the subject of urethral surgery, is worth the price of the book.

We call our readers attention to one point about the permeability of a stricture, as it has been discussed quite freely for some time.

"As long as a stricture admits of the discharge of urine, it cannot in the true sense of the term, be considered as impermeable, although it may be impassible by the bougie, sound or catheter."

* * * * *

"It has been asserted that there is no stricture that is impermeable to an instrument of some kind or other; that whenever there

*See Hamilton on Fractures, p. 472 and 473.

is room enough for the passage of urine, there is space enough for the introduction of a bougie or probe." * * * "I go farther, and assert, upon the testimony of personal experience, that there is a class of cases, the result of ordinary causes, which, while they admit of the flow of urine, slowly and imperfectly it may be, do not permit the introduction of any instrument, however small, into the bladder." P. 774, Vol. II.

We must bring this unsatisfactory notice to a close. It is useless to attempt a description of such a great work. To be understood and appreciated it should be consulted daily, and every day there will be found something new to commend it to the diligent reader. We would before closing call attention to one omission in the index. Davy's lever is not mentioned under the head of "D" or "L", neither is it mentioned under "Hip-joint amputation of", although a description of this instrument is fully given on page 1124. If this is the only error in the index it will be wonderful, but it surely mars the value of a book to have mistakes here. The faulty index is the greatest objection to the English edition of Holmes' Surgery.

SLIGHT AILMENTS: THEIR CAUSES, NATURE, AND TREATMENT.

By LIONEL S. BEALE, M.D., F.R.S. Second Revised Edition. Enlarged and Illustrated. Pp. 283. Philadelphia: P. Blakiston, Son & Company, 1012 Walnut Street. 1882. Price in paper 75 cents.

Dr. Beale has been better known in this country as a physiologist and microscopist, than as a teacher of general medicine. All of his work has been of a practical character, however, and intended to serve as a clinical help. His high position, as a Professor of Practice in King's College, London, shows that his ability is many-sided. Whatever subject he undertakes we expect to be treated in a worthy manner, at least.

This volume discusses the "slight ailments" which medical men generally have to master after entering into practice, few systematic text-books giving sufficient valuation to them. For this reason, many things written about will strike the older practitioner as being quite elementary, although as a teacher, the author has found it necessary to write about them. It must not be inferred by this remark that the work would not be a highly useful one for every practitioner, a book really to be enjoyed by them.

Prof. Beale speaks with no uncertain meaning as to the part played by bacteria. He says in one place "if bacteria germs constitute the actual, material, living principles by which contagious disease is propagated, they must be peculiar bacteria, totally different from the ordinary bacteria germs which exist, and have existed everywhere. The ordinary bacteria may certainly grow and multiply enormously on the mucous membranes of the body, in follicles of the mucous surfaces, and in viscera,—intestinal canal, bladder, and passages therefrom, nay, even amongst the elements of healthy growing tissue, without causing any disease at all. Bacteria germs, low fungi, and low algæ exist in connection with the tissue and fluids of every human organism, and, as you may convince yourselves at any time, millions of these are unquestionably present during every moment of existence in health on the surface of the dorsum of the tongue. Multitudes, as I have said, pass down the alimentary canal every time we swallow food or fluid. Such ordinary bacteria and their germs do us no harm whatever."

A GUIDE TO THERAPEUTICS AND MATERIA MEDICA. By ROBERT FARQUHARSON, M.D., Edin. Third American Edition. Revised by the Author. Enlarged and Adapted to the U. S. Pharmacopœia by FRANK WOODBURY, M.D. Philadelphia: Henry C. Lea's Son & Co. 1882. Pp. 526.

The second edition of this work was noticed in the JOURNAL, June, 1879. Our opinion of it then was very favorable and in the new edition we find much more to enhance its value.

Many attempts have been made by writers to produce a work on Therapeutics, which would be concise, up to the latest standard as to the action of old and new remedies, a volume to serve as an introduction to a knowledge of the action of remedies for the student, and an acceptable book for the office table for rapid consultation in emergencies. We cannot recall a book which has succeeded in these particulars nearly so well as this.

Here the reader gets at a glance the physiological and therapeutical action of a substance, in parallel columns, followed by directions for the mode of administration and dosage. The original work is from the hand of a ripe practitioner, and the addition by the American author is valuable.

As it was issued before the U. S. Pharmacopœia of 1882, all the references and comparisons are to the Pharmacopœia of 1873, but as this edition will meet with a ready sale the changes can be easily made for the next.

For students raised on such text-books as Martyn Paine's *Materia Medica* and Christison's *Dispensatory*, this little work will be esteemed a great luxury. And with all students it must take a place with their favorite volumes.

THE STUDENTS' MANUAL OF HISTOLOGY, FOR THE USE OF STUDENTS, PRACTITIONERS AND MICROSCOPISTS. By CHAS. H. STOWELL, M.D. Second Edition. Illustrated by 192 Engravings. Detroit: Geo. S. Davis. 1882. Price \$2.00.

The author sends out his work with a very modest preface, disclaiming any intention of superseding "the large text-books of Stricker or Klein." He gives elementary instruction clearly, and in the language of one evidently not only familiar with the topics of which he treats, but fully in love with them from first to last. The first edition was well received by the medical press, and a second edition has been called for in a short time. Of course a publisher could hardly produce a work at so small a price with clear engravings, but the press work could have brought out the wood-cuts to a better advantage, had more pains been taken with it.

MICROSCOPICAL DIAGNOSIS. By CHARLES H. STOWELL, M.D., and LOUISA REED STOWELL, M.S. Illustrated with 128 Engravings on Wood, and 47 Figures on Stone. Pp. 250. Detroit: Geo. S. Davis. 1882.

This is a companion volume for the "Students' Manual of Histology," and is by the same author with the assistance of Mrs. Stowell.

Part I treats of microscopical diagnosis of blood, epithelium, contents of the oral cavity, sputa, vomited matters, faecal matters, muscle, urinary deposits, parasites of the skin, tumors, starch, and gives direction for the detection and differentiation of human and animal blood corpuscles. The engravings illustrating these are signed by the initials of Mrs. Stowell, and are handsomely done.

Part II gives the microscopy of wheat,—the straw, the fruit

coats, the grain,—and also a study of the varieties. Adulteration of wheat flour, comparing the wheat starch with other starches, barley, rye, oat, and buckwheat are also described.

The following drugs are also described and their histology illustrated. *Eucalyptus globulus*, *Pilocarpus pennatifolius*, *Smilax (officinalis)*, *Fucus vesiculosus*, *Ipecacuanha*, *Boldo*, *Alstonia scholaris*, *Jacaranda Carobá*, *Piscidia Erythrina*, *Ustilago maidis* (*U. Zeæ* of Schweinitz, and a more proper name).

Part III gives some hints on the preparation and mounting of microscopical objects.

This volume is, therefore, a book of medical and botanical diagnosis, and an assistant to the microscopic worker. It is well illustrated, and more carefully prepared in every way than its companion volume, although it unites the study of two subjects quite far apart—pathology and botany.

THE DISEASES OF WOMEN. THEIR PATHOLOGY, DIAGNOSIS, AND TREATMENT, INCLUDING THE DIAGNOSIS OF PREGNANCY. By GRAILY HEWITT, M.D., Lond., F.R.C.P. 4to. American Edition. With 132 Illustrations. Philadelphia: P. Blakiston Son & Co., 1012 Walnut Street. 1882. Pp. 740. Price in paper \$1.50, in cloth \$2.50.

The author says in his preface, that this new edition is substantially a new book work, and so we find it to be. It is unnecessary to give our readers even a short analysis of the contents of a volume so long known to most of them. The book is printed from advanced sheets of the London edition, and placed within reach of even those doctors who are not educated up to spending money for books.

The reader will readily recognize what a great difference there is between the English and American treatment of the diseases of women by comparing this volume with Thomas', Emmett's, or Goodell's to the credit of the English writer that he ignores much that is taught in this country as sound and essential practice. If the rest of the medical world can see something valuable in American gynecology, Dr. Hewitt might give some of his space; even if only to refute false American teaching.

The Messrs. Blakiston are serving medical readers to cheap forms

of those works likely to pass through many editions, giving the physician an opportunity, by reason of their cheapness, to possess the new editions as they are issued.

QUESTIONS ON HUMAN ANATOMY. By SAMUEL O. L. POTTER, M.A., M.D. With 63 Illustrations. Philadelphia: P. Blakiston, Son & Company, 1012 Walnut Street. 1882. Price \$1.00.

This is a "Quiz Book," comprising a series of questions and answers. It is far above anything of the sort we have seen designed for a similar purpose. The arrangement is well calculated to facilitate accurate memorizing, and the illustrations are clear and good. Other "compendes" on the various branches of medicine are in preparation by the same publishers.

THE PHYSICIAN'S VISITING LIST FOR 1882. Thirty-Second Year of the Publication. Philadelphia: P. Blakiston, Son & Co., 1012 Walnut Street. Price for 25 patients a day \$1.00; 50 patients a day, \$1.25.

This visiting list has long been popular with physicians because of its size and convenient arrangement.

WALSH'S PHYSICIAN'S COMBINED CASE-BOOK AND TABLET. Mailed prepaid for \$1.25.

This is a comparatively newer publication than the former, but is by no means less popular.

RADICAL CURE OF HYDROCELE.—For this purpose Dr. Lam-pugnani, of the Pavia Hospital, employs with great success chloral hydrate dissolved in equal parts of warm distilled water, injecting by means of Potain's capillary trocar, as a general rule, one or two grammes of chloral in children, four in the adult, and from that dose to eight grammes in the aged. The burning pain produced is allayed by cold applications; and if absorption has not become complete in eight or ten days, the injection, in a smaller dose, is repeated.—*Gaz. Med. Lombardia*, 1882, No. 25.

CORRESPONDENCE.

CINNAMON FOR THE ARREST OF UTERINE HÆMORRHAGE.

Editor of North Carolina Medical Journal :

I know that old practitioners will smile at the narration of the following case :

Mrs. —, a multipara, had a miscarriage at the fourth month. Secundines were believed to be entirely removed. She got up rather early and undertook fatigue ill suited to her condition. Shortly after she went to bed with uterine hæmorrhage, which lasted four days, and yielded to ergotine. I believed that the patient had hæmorrhage because of an old cervical laceration. Hæmorrhages recurred at variable intervals until six weeks after the miscarriage she was taken down with violent pains and slight hæmorrhage, at which time, shreds of placenta were expelled. For several days this state of things lasted, the patient having considerable fever. From this time she was confined to the bed four weeks.

The uterus was thoroughly examined, it being in a patulous condition, but no remnants of secundines were found. Several clots were turned out. The hæmorrhage still persisted with accompanying pain. Jamaica Dogwood in teaspoonful doses every five hours relieved the pains but produced constipation, contrary to my former experience. The hot douche was faithfully applied as hot as it could possibly be borne. Fl. ext. ergot was given in teaspoonful doses every three hours, in conjunction with the douche, but without avail.

Styptic applications (Monsel's solution) were applied to the uterine cavity without avail. Now, what appeared to be the regular menstrual flow came on, and all treatment was suspended.

A lady friend called to see my patient, and advised her to use cinnamon, as it had relieved her in similar circumstances. I did not object, and after waiting for the time to elapse calculating it for a usual menstruation, she tried the remedy. A decoction of one half ounce of powdered cinnamon was made in a half pint of water. At 11 o'clock the first dose was taken, and by 1 o'clock the flow became paler, and so continued to diminish until next morning,

since which time there has been no sign of hæmorrhage. You can imagine my surprise when I found that the first two authors I consulted Stillé and Farquharson mention the power of arresting uterine hæmorrhage as one of the properties of cinnamon.

I looked further and found that Wood and Bache, Emmett, the scholarly old West, all mention the remedy but "damn it with faint praise."

Yours truly,

J. R. L.

IODOFORMOMANIA.

Under this title, the *Presse Médicale Belge* (October 8) has an amusing article, declaring that although undescribed by alienists, a disease exists which has committed great ravages, and especially in Germany. It may bear various names and appear in various forms, but at bottom it is always the same thing—a mania for a new medicine, leading to the unreflecting employment in all kinds of diseases, and for the fulfillment of the most opposite indications, of any remedy that has been recently discovered or has been revived into vogue. We saw, a few years ago, what happened with pilocarpin, which was so enthusiastically prescribed for every malady, and was expected to cure everything, even hydrophobia itself. Now it is iodoform which is making the round of pathology. We have only to glance at the German journals to see what is expected from it by our learned neighbors. Not content with employing it for wounds in every stage of their progress, for syphilis and for diseases of the eyes and ears, it is used internally for diphtheria, ulcer of the stomach, diabetes and tuberculosis; while, with many it has acquired the reputation of destroying *microbes*, in the present rage for parasitic theories of disease it bids fair to successfully invade the whole province of therapeutics. In the meantime thirteen deaths are known to have occurred by its agency, and these are not the only ones. Some one has said, "Use a remedy while its curative power remains," but for iodoform it will be more prudent to delay joining in this mad employment of it until it has ceased to kill.—*Medical Times and Gazette*.

CURRENT LITERATURE.

THE BYE-PRODUCTS OF FERMENTATION OF STARCHY MATTERS.

The action of the impurities of potato spirit on the human body has lately been carefully investigated by Dr. Brockhaus of Godesburg, in a series of experiments on his own person, narrated in detail in the *Centralblatt für allgemeine Gesundheitspflege*, 1 Jahre, V. Heft, 1882. It has long been universally held that the almost poisonous effects of spirits distilled from potatoes or corn without subsequent purification of the crude product are owing to the presence of certain bye-products, especially amylic alcohol, the chief ingredient of the so-called fusel oil; and the general opinion has been confirmed by the experiments of Magnus Huss, Pelltan, and others, on animals. Dr. Brockhaus, however, considers that though observations on the lower animals may, with certain limitations, be accepted in regard to the action of a drug on single organs, as the heart, they are of little value when we would study their effects on the organism as a whole, and especially on the central nervous system, and *à fortiori* on the mental faculties. The only recorded observations of the kind made on man are, he considers, wanting in scientific precision, and in them the crude fusel oil, a mixture of several alcohols, was employed. Dr. Brockhaus therefore resolved to institute a series of careful experiments with each of the bye-products of fermentation of starchy matters, which he obtained in a state of chemical purity from the manufactory of Kahlbaum at Berlin, under the advice and direction of Professor Binz, of Bonn. Dr. Brockhaus is a man of unusually powerful and robust constitution, and accustomed to the daily use of wine and beer in moderation; and *teste* such personal experimentation as this, he is an enthusiast in scientific research. The bodies with which he experimented were aldehyd, paraldehyd, and acetal; the constituents of fusel oil, viz.: propylalcohol, isobutylalcohol, and amylalcohol, and, inadvertently, allylalcohol. Each was taken in water, in cognac (pure brandy), and in light Rhine wine (the quantity of the two latter vehicles being such as he found by previous trials to have no appreciable effect on himself), in appropriate doses

at regular intervals, either in the morning fasting, or on other days after dinner in the evening, strict notes being taken, at the time of the doses, mode of administration, and effects produced. There is, as might have been expected, a great sameness in the symptoms, but the action of aldehyd presents some peculiarities. Its effects were speedily developed, but passed off in a very short time. The taste, however, was so pungent as to be almost unbearable when fifteen drops only were dissolved in 150 grammes of water, though more tolerable in wine or brandy. His experience went far to confirm the probability of Pierre's statement, that in some of the low spirit-shops of Rouen the customers, after being served with brandy highly charged with aldehyd, are hurried out into the street, where they fall senseless within a few minutes; and many cases where the victims are supposed to have been drugged may be explained in this way. To the presence of aldehyd, which subsequently undergoes acetification, Dr. Brockhaus attributes the intense and early intoxication produced by some new wines, which, when matured, are harmless. Paraldehyd and acetal resemble aldehyd, but the taste and effects are milder, though the latter last longer. Of the constituents of fusel oil, propyl and isobutyl alcohols seem to exert a less influence on the mental, though a greater on the digestive, functions than the foregoing; but that the general effects of fusel oil are mainly owing to the amylalcohol, Dr. Brockhaus' experience amply proves. In the case of allylalcohol, which he on one occasion took by mistake for amylic, there was superadded to the usual symptoms of the latter a weakness of the limbs approaching paralysis. This substance is marked by a strong pungent odor resembling that of oil of mustard. Allylalcohol, is used in Germany to render spirits unfit for drinking, as the crude methylic is with us, but Huss mentions an instance of brandy prepared from diseased potatoes in 1849, which produced remarkably toxic effects, attended by alliaceous eructations, the cause of which was at the time unsolved, though very probably due to the formation of allyl. Dr. Brockhaus, quoting Rabuteau and F. O. Smith, urges that, the ordinary methods of purification employed—including that by charcoal—being inadequate to the entire removal of these impurities, the sale of potato spirit for other than use in the arts should be forbidden.—*London Medical Times and Gazette*.

TURPETH MINERAL IN CROUP.

Dr. Fordyce Barker, of New York, places great reliance on this drug in croup. Dr. E. R. Duval, stated, at the last meeting of the Medical Society of the State of Arkansas (*Transactions*), that "For twelve years, after the manner of Dr. B., I have been using the turpeth mineral in the treatment of this disease, and I have, since the adoption of this plan, lost no case of croup.

My treatment has been, immediately upon being called to a case, without stopping to interrogate very closely as to whether I have a croup reflex, catarrhal, or true croup, to administer at once a dose of the agent (from two to five grains, according to age) in honey, syrup, or sugar of milk, and if there is no decided emesis within fifteen minutes, to repeat the dose; and I have never known it to fail to vomit at the second dose; almost immediately a satisfactory response is secured by the first administration. The vomiting is usually free, without effort and without depression. The powder is tasteless, small in bulk, prompt in action, and thorough in effect.

The virtues claimed for it are sedative and revulsive. "It depletes the mucous membrane by an abundant secretion of mucus, which is thrown up; it removes from the larynx, by the forced expiration which it causes, any albuminous or fibrinous exudation which may be there in a diffuent state, and which by remaining may become, subsequently, pseudo-membrane; it acts as a powerful revulsive, and thus diminishes the capillary circulation in the trachea and larynx; and thus it becomes a most effective agent in arresting the inflammatory forces."

If the croup persists after removing the causes of reflex action, then, of course, other therapeutic agencies will need to be essayed; but throughout the attack, be it short or long, when the breathing becomes suffocative, from the accumulation of mucus in trachea or larynx, I give the turpeth mineral in the manner and according to the conditions and plan above designated.—*Phil. Med. and Surg. Reporter*.

THE LIBRARY OF THE SURGEON-GENERAL'S OFFICE
AND THE ARMY MEDICAL MUSEUM.

A general regret has been felt by the medical profession that Congress adjourned without making provision for the safe keeping of these important collections. The building in which they are placed is not only insufficient in size and too frail in construction to bear the necessary weight, but it is perilously unsafe, both in itself and its surroundings, in case of fire. It is melancholy to reflect that the largest medical library in the world and the rich accumulations of the museum might disappear utterly in the conflagration of an hour. No physician needs to be told of the value of the library or of its remarkable opulence in medical periodicals, but Congressmen are perhaps not generally aware of the *national* character of this collection and that it is the great mine of knowledge to which the profession of the whole country resort at need. Its destruction would be a loss which no money could replace, and it is earnestly to be hoped that in the coming session an appropriation may be made to provide the fire-proof building asked for by the Surgeon-General.

We have been told that objection has been urged on the ground that the Congressional Library will before long be provided with new quarters, and that the library of the Surgeon-General's office should be consolidated with that collection. Next to its destruction, no worse calamity could befall it than such a change.

Its successful management and the marvellous rapidity with which its stores of learning have been collected are due to the knowledge and zeal of its *medical* administrators. If removed from the control of the Surgeon-General and added to the ponderous accumulations of the Library of Congress, its especial character will disappear, and it will become, like the medical sections of the great public libraries of Europe, of comparative unimportance and of little availability. Every travelled physician knows that in the great cities abroad it is the exclusively medical libraries which attract him. If in London he would not bewilder himself by an excursion to the reading rooms of the British Museum in search of professional lore, but he would straightway proceed to the library of the Royal College of Surgeons, the Royal Medical and Chirurgical Society, or some other purely medical collection.

It is the clear duty as well as interest of the profession, to bestir itself in this matter. Let every physician who can, either in person or by letter, convey his views to a senator or congressman, urge upon him the importance of providing a fire-proof building for the library and museum (which ought never to be separated), of keeping the library under the control of the Surgeon-General, and of providing for the completion of its index catalogue, the usefulness of which can hardly be overestimated. Whatever is to be done in the way of acquainting Congress with the opinions and wishes of the medical profession on this matter, should be done within the next three or four weeks, for it is the winter for the short session, and after Congress has met the members will as a rule be too busy to attend to any new business. The House Committee on public buildings and grounds, before which the Surgeon-General's application for a fire-proof building comes, is composed as follows: William S. Shallenberger, Pennsylvania; J. H. Lewis, Illinois; M. E. Cutts, Iowa; M. L. DeMotte, Indiana; J. A. Scranton, Pennsylvania; Nicholas Ford, Missouri; J. Hyatt Smith, New York; Philip Cook, Georgia; J. W. Singleton, Illinois; H. A. Herbett, Alabama; Lewis Beach, New York.—*Phil. Med. News.*

PHYSIOLOGICAL EFFECTS OF HYOSCYAMIA.

Dr. H. A. Hutchinsan, of Pittsburg, contributes (*Alienist and Neurologist*) his personal experience with Merck's hyoscyamine, of which he took one-fourth of a grain in order to test its hypnotic effect while in a good state of health. His feelings are thus graphically described:

"Immediately I noticed a decided dryness of the mouth and throat, and almost a total absence of saliva, and difficulty of deglutition. Looking in a mirror, I noticed an intense congestion of my head and face, the carotids throbbing violently with every impulse of the heart. Along with this there was acceleration of the pulse and respiration, accompanied by a feeling of numbness extending over the entire body, with loss of power in producing the

ordinary movements of coördination. I made an effort to 'walk it off,' but soon found my feet becoming so enfeebled that I could only walk by fixing my eyes intently on the ground. Had any one noticed me at this time, I should have had some difficulty in establishing the fact that I was not deeply intoxicated. Finding that exercise would not relieve me from the poisonous effects of the drug, I, with much exertion, ascended the stairs to my room for the purpose of retiring to bed.

"My mental faculties up to this point were intact, and I fully relieved my unpleasant position, but had no fear of any fatal result. Indeed, I was entirely oblivious to everything, past, present, or future, and cared little for anything except sleep. So imperative and overwhelming was this demand, and the general helplessness of my limbs so rapidly increased, that I was only able to throw myself upon the bed without undressing, and was soon in a deep slumber or coma, which lasted eleven hours. During this period I have no recollection of anything. I was not disturbed by any delusion or dream, or conscious of the presence of any one or of my own existence.

"Medical friends who were present with me during those eleven hours, alarmed at the profound stupor in which they found me, and not knowing I had been experimenting with hyoscyamine, resorted to every expedient to bring me out of what they supposed an apoplectic coma. Resort was had to sinaplasms, dry cupping, application of cold to the head, flagellation by wet towels, etc.; but all efforts were unavailing to awaken me, or to produce any evidence of consciousness.

"I am told that during this prolonged sleep there was entire relaxation of all the voluntary muscles, except occasionally some spasmodic movements of the arms and legs; the pulse ranging during the first few hours at 138, full and hard; respirations numbered thirty-four to forty, and temperature 106° F.

"As the narcotic effects of the alkaloid passed away, the pulse rapidly fell to 106, temperature declined to 99°, and the respirations were reduced in frequency; but consciousness did not return for several hours after this.

"When I did regain consciousness, I had great difficulty in collecting my thoughts or concentrating my mind on any particular

subject. There were no hallucinations, delusions or illusions, but for twenty-four hours or more every object on which I looked was tinged with yellow.

"It seems that during the period of sleep I suffered more or less from nausea, and at one time vomited, although I had not the slightest recollection of having done so."

For several days after his recovery the pupils were very considerably dilated, and he was annoyed with double vision and a general arrest of the various secretions of the body, as well as the excretions from the skin.

A DERMATOLOGICAL DRAMA.—The *Moniteur des Sciences Médicales Pharmaceutiques* publishes an amusing "dermatological drama," called "King Sulphur" which is said to be played at the Hôpital St. Louis. Sulphur is King of Cutis, and has just conquered Acarus. He lays his crown at the feet of Queen Friction, who has aided him in the campaign, and implores her to become his honored queen. But she insists first on making an assault on Favus, and totally destroying his arrogant rule. If afterwards Sulphur should burn with the same ardor she will consent. Then she leads forth her army, attended by Axungia, while Sulphur marches in her train. Meanwhile the old-tried General Hydrargyrum, Iodide of Potassium, and Turbith consult in angry conferences. Hydrargyrum is excited when he thinks that he, who has for forty years combated with so much glory all the forces of the Syphilides, should now be set aside for this Sulphur. Iodide laughs at his fears, and mocks at the silly tactics of Sulphur in such a war. Then we are introduced to the palace of Queen Eczema, wife of Herpes, who confides to her faithful attendant Acne her fears as to the future; she imagines she is losing her bloom, and is oppressed with vague fears. The news of the advance of Sulphur with Friction and Axungia causes vast alarm. Great preparations are made to resist him, but his attack is irresistible, and at length Favus, Eczema, Herpes, and all their generals have to acknowledge themselves vanquished by this terrible parasite and spore destroyer.—*Chemist and Druggist*

NOTES.

OVARIOTOMY IN AN INFANT.—Dr. Hingston, of Montreal, recently removed an Ovarian tumor from a child two years of age. The patient was doing well at last account.

A TELEGRAM to the New York *Tribune* says that the health of Ex-Surgeon General Barnes continues to be so feeble as to excite the gravest apprehensions of his friends. Dr. Woodward another of President Garfield's physicians, has been steadily sinking for several months past, and no hopes of his recovery are now entertained.

TREATMENT OF GOITRE BY INTERSTITIAL INJECTIONS OF ARSENIC.—Dr. Grunmach recommends the interstitial injections of a solution of one part of liquor potassii arsenitis, to three of water, in the treatment of goitre. In the case reported the tumor was considerably reduced in size and the interference with respiration caused by pressure on the trachea entirely relieved. The solution was injected in amounts equal to one-half or one-third of a Pravatz syringeful, two or three times each week.—*Berliner klin. Woch.*, No. 32, 1882.

VIBURNUM PRUNIFOLIUM.—Dr. O. E. Herrick, in commenting upon the occasional toxic effects of viburnum prunifolium (dryness of mouth, dimness of vision, dizziness, etc.), says: "Next to ergot I place more dependence upon viburnum in the treatment of diseases of females than any other agent for internal administration. Its action is not limited to the prevention of miscarriage by any means, but it is alike applicable in cases of uterine engorgement, ovarian irritation, and numerous other conditions of the female sexual organs."—*Obstetric Gazette*.

AQUA AMMONIA AS A TEST FOR TRIPLE-PHOSPHATES IN THE URINE.—If a patient has rheumatism in the fibrous tissues of the body, and more especially where it is visceral and latent, use the signs where it is furnished by the urine. Get a sample of the urine, and, in the absence of a test-tube fill a wine glass two-thirds full, hold the glass up to transmitted light, and add to the contained urine two or three teaspoonsful of aqua ammonia. If, on adding

the ammonia, the urine becomes cloudy, you may know that triple phosphates are present in excess, that the rheumatism is phosphatic, and that lemon juice is the remedy not only for that state of the urine, but for rheumatism depending on their presence in the blood. But if, on the contrary, the urine becomes clear and more translucent than it was before the ammonia was added, then you may know that the wine and the blood as well contain uric acid or urate of soda in excess, and that the appropriate remedies for this form of rheumatism are salicylate of sodium, and phosphate of ammonia; the former being, as a rule, best at the beginning of an attack of rheumatism, while the latter as a special solvent for urate of soda, will often be found more useful at its close. * * *

“Aqua ammonia is a far better test than litmus paper, which latter constantly shows acid reaction when the urine is loaded with phosphates, moreover, aqua ammonia is always at hand, and is to be found in every dwelling under the name of fluid sal volatile or hartshorn, so that there is no loss of time which would be required to have the urine analyzed. When, on adding the ammonia, the urine becomes *translucent* for an *instant*, and a moment after *cloudy*, it is a sign that all the salts are in excess, and that while salicylate of sodium is needed to dissolve the urates, lemon juice is also required to get rid of the phosphates.—*Dr. Buckler in American Jour. Med. Sciences*, October, 1882, pp. 368–69.

LEMONADE IRON.—The effect of prescribing disagreeable medicines for some classes of patients, and especially the roving class which is often met with in the hospital practice, is well known. Sometimes an artifice in the shape of a *pleasant* medicine is useful in securing the return of a patient, whom it is desired to see again. The following formula for a “lemonade iron” prescribed in a case of this kind was recently mentioned in a clinical lecture by Professor Goodell, of Pennsylvania University :

R.

Tincture ferri chloridi, 3 ij.

Acidi phosphorici diluti, 3 vi.

Spiritus limonis, 3 ij.

Syrupi, ad 5 vi.

M. Sig. A dessertspoonful, in water, after meals.—

The Practitioner.

NITROUS ETHER A SENSITIVE TEST FOR CARBOLIC ACID.—If to a dilute solution of carbolic acid in water, (1 in 1000) then one to three drops properly prepared spts. nitrous ether be added, and afterwards about an equal volume of concentrated sulphuric acid be allowed to flow down the inside of the test-tube, so that two layers are formed, a fine rose color will make its appearance at the line of contact of the two liquids. If the two layers are gradually mixed by swinging the test-tube around, the red zone becomes broader and finally the whole mixture becomes red. This reaction is still visible at a dilution of 1 in 2,000,000. It is, by comparison with ferric chloride, hypochloride and ammonia, same with aniline, bromine water, mercuric nitrate and nitrous acid, or chlorate potassium, the most sensitive of all.—*Prof. Eykman in New Remedies.*

ST. LOUIS, MO.

After many years' experience with Kennedy's Extract of the *Pinus Canadensis*, I unhesitatingly state that its use in all diseases affecting the mucous membrane is invaluable.

618 Olive Street.

JAMES C. NIDELET, M.D.

MEIGS ON BRIGHT'S DISEASE.—Dr. Arthur V. Meigs, of Philadelphia, gives some excellent clinical observations on albuminuria, based upon a study of 62 cases seen in private practice. We commend its perusal, (see the Cincinnati *Lancet and Clinic*, Nov. 11th, 1882) and give the following summary of it :

There has been much said of later years about kidney disease without the presence of tube-casts in the urine, and of the presence of casts without albumen. I may say that I have frequently found tube-casts in the urine when the most careful chemical examination failed to detect any albumen, and *vice versa*, have failed to find any casts at all, when the event proved the existence of renal diseases.

The subject of treatment I have not even mentioned in my paper, although much might be said about it, because I have already trespassed too long upon your time.

In conclusion, I will briefly recapitulate the points which it has been my endeavor in this paper to prove.

First, that in no ordinary, uncomplicated case of Bright's disease,

should a prognosis of speedy death, or even of incurable disease, be given, for I have related cases in which the disease was chronic, lasting more than two years, and which ended in complete recovery, and others in which the person affected has lived nine years.

Second, that dyspnoea, usually taking the form of renal asthma, is much more common than is usually supposed, and when properly appreciated, is a valuable diagnostic sign of the disease; also that severe coryza is a complication or accompaniment, and has a diagnostic value.

Third, that Bright's disease, as a cause of death, is on the increase.

Fourth, that it is a very common cause of the deaths of old people, probably being the direct cause in many deaths reported as of old age.

Fifth, that the passage of gravel, even when microscopic in size, but particularly if large enough to cause nephritic colic, is a prolific cause of the disease.

Sixth, that the occurrence of tube-casts in the urine, without, or in advance of, the presence of albumen, is very common, and *vice versa*, persons may die of Bright's disease, and the most careful examination fail to show any tube-casts, although there may be albumen constantly present in the urine.

Seventh, that the abuse of alcohol is certainly a cause of kidney disease, as proved by the case I have related, in which it has, again and again, caused hæmorrhage from the kidney, with the temporary presence of albumen and tube-casts in the urine, disappearing again with the cessation of its consumption.

REMARKABLE CASE OF MELANOSIS.—One of the most remarkable cases of melanosis on record was recently reported (*Lancet and Clinic*, Nov. 18th,) by Dr. Wm. H. Falls, of Cincinnati. The skin of the entire body gradually changed its color until the man, once of light complexion, became as black as a negro. Impaired vision, resulting in complete blindness, was the initial symptom, being due to the deposition of the melanotic masses in the choroid. The urine, black as ink, was highly albuminous. The subcutaneous nodules, widely distributed over the entire body, varied from the size of a millet seed to that of a cherry. With the exception of

occasional convulsions the patient's intellect remained clear to the end. Death resulted from paralysis following one of these convulsions. Melanotic masses were found in various parts of the brain and all the other viscera. These proved, on microscopic examination, to be melano-sarcomata. A detailed clinical history of this most interesting case, which lasted ten months, will, with illustrative lithographic engravings, and full *post mortem* and microscopic accounts will be found in the *Lancet and Clinic*.

SIR THOMAS WATSON, BART.—The whole profession will learn with deep concern that the health of this revered physician has during the last few days been a source of anxiety to his family and friends. He had for some weeks past been staying with his son at Reigate. On Sunday last, although now in his ninety-first year, he was in his usual good health and attended the morning service. On attempting to rise from his chair after lunch he suddenly inclined towards the left side, and would have fallen on the floor if he had not been supported by his son. He afterwards took a short walk in the garden, but there was an evident weakness of the left leg and this continued to such a degree that he is now unable to walk without assistance. There is no appreciable loss of power in the arm, but the tongue when protruded deviates slightly to the left. There has been no drowsiness, and he is in complete possession of his mental faculties. His kind neighbor, Dr. Walters, of Reigate, is in daily attendance, and he has been visited by his old pupil and friend Dr. George Johnson, to whom he calmly remarked, "This is the beginning of the end." His medical attendants are agreed that there is probably some arterial obstruction by thrombosis in the neighborhood of the right corpus straitum.—*Lancet*, October 28, 1882.

A SIMPLE MEANS OF CHECKING PULMONARY HEMORRHAGE WITH SHAWL-STRAPS.—Dr. H. Holbrook Curtis gives, in the *New York Medical Record*, a novel way of arresting pulmonary hemorrhage. Called in a case of emergency, Dr. Curtis purchased a pair of ordinary shawl-straps punched with holes over a quarter of an inch apart, and braided three strands of drainage-tubing, making two cords of as many feet long. He laid a folded napkin over each

femoral vein just below the fold of the groin and adjusted the straps about the thighs as high up as possible, so that the buckles would be over the napkins. The straps were tightened enough to stop the venous return without interfering with the arterial supply of the extremities. Then the arms near the shoulders were bound by the rubber tubing. The hemorrhage was checked almost immediately, and in about five minutes the strap and tubing were loosened. This was no sooner accomplished than the patient complained of a great shock to "the sore place," and the bleeding recommenced. The same procedure checked it as before. In about five minutes, the extremities becoming markedly cyanotic, the straps were loosened, a hole at a time, when no hemorrhage recurred. The shallow and difficult respiration was greatly relieved by keeping an arm and the opposite leg strapped. As soon as a member became cyanotic, the strap was changed to the opposite side.

LOUISVILLE, Ky.

I have used *CELERINA* in the treatment of nervous diseases with the most *gratifying* results, and in a few cases of *opium* habit. I am thoroughly satisfied with its remedial effects in this particular affection.

Very respectfully,

W. T. LEACHMAN, M.D.

Office 303 W. Walnut Street.

THE AMERICAN PUBLIC HEALTH ASSOCIATION held its Tenth Annual Session at Indianapolis, on October 17, 18, and 19. Dr. R. C. Kedzie, of Lansing, President of the organization, occupied the chair and delivered a valuable address. The leading questions under discussion were vaccination, the National Board of Health and contagious disorders. The resolutions from the Committee on Venereal Diseases, recommending the passage of laws to prevent the spread of contagious and infective diseases as recommended by Dr. Gihon, U.S.N., were tabled. Dr. Cabell read a report of the labors of the National Board of Health, which was well received; and a series of resolutions were adopted strongly endorsing the Board and urging its continuance and support. Owing to some misunderstanding, no social receptions were given to the Association. The officers for next year are—Dr. Ezra M. Hunt, of New

Jersey, President ; Dr. Albert L. Gihon, First Vice-President ; Dr. J. E. Reeves, of West Virginia, Second Vice President ; Dr. J. B. Lindsley, of Nashville, Tenn., Treasurer ; Drs. Thomas L. Neal, T. J. Turner, G. P. Conn., J. S. Billings, J. J. Speed, and H. D. Fraser, Executive Committee. Detroit was selected as the next place of meeting — *Phil. Med. Times*.

NEW TEST FOR THE DETECTION OF ALBUMEN IN URINE.—Dr. George Johnson, F.R.S., of London, is now using picric acid for the detection of albumen in the urine. This test was suggested to him by his son, Mr. G. Stillingfleet Johnson, who has long labored at chemical research, and believes that the test is free from fallacy. A saturated solution of picric acid has a specific gravity of 1003, and immediately coagulates any trace of albumen which may be present in the urine to which it is added. The delicacy of the test is strikingly demonstrated when slightly albuminous urine is poured on to the surface of nitric acid and the picric acid solution is added on the surface of the urine. An obvious advantage of the test is that the powdered picric acid may be so conveniently and safely carried in the pocket ready for the immediate and efficient examination of any urine suspected of being albuminous. It is only necessary to throw some of the powder in'o the suspected urine while it is warm, and to agitate slightly, in order to produce an obvious cloudiness if any albumen be present. — *Boston Medical and Surgical Journal*, Nov. 9, 1882.

EMBLIC MYROBOLANS AS A LAXATIVE.—The editor of the *British Medical Journal* calls attention to a remedy, well-known as an efficient laxative in Eastern countries, viz. : Emblic Myrobolans, received from Mr. Martindale, and recently imported from India. It is the fruit preserved in sugar of *Emblica officinalis*, or *Phyllanthus emblica*. It is an euphorbiaceous tree ; and the fruit which is about the size of an olive, or perhaps somewhat larger, contains a hard angular seed. Several species of myrobolans were formerly used in medicine ; and an old writer says “ they restore youth, improve the complexion, the breath and the perspiration, and impart joy and hilarity.” It is not alleged that this particular species possesses these properties ; but Dutt, in his *Hindu Materia Medica*,

says that it is "cooling, refrigerant diuretic, and laxative. It promotes the appetite, and acts as a tonic." He has tried it carefully in several cases of habitual constipation, and has no doubt that it is a valuable addition to the list of laxatives. It must be remembered that it is a natural fruit, and not an artificial preparation. It may be eaten at dinner or dessert. It is most valuable for children.

TREATMENT FOR GONORRHOEA.—An M.R.C.S., gives in the London *Lancet* a plan of treatment derived from his own personal experience. He puts a pound of freshly ground cubebs in a salt-mouth jar of 200 oz. capacity. To this is added 2 oz. iodide of potassium, and fills the bottle with cold water, adding one or two lumps of camphor. He shakes the bottle several times a day for a few days, and administers it in regular consecutive doses, of what quantity he does not say. He advises strongly against the use of strong injections such as nitrate of silver, chloride of zinc and tannin, and of all injections; but if he uses any it would be an infusion of cubebs with a little morphia.

TWO NOVEL USES FOR PEPSIN.—Dr. Hollman (*Nederland Weekblatt*, 18, p. 272) has used an aqueous solution of sixteen grains of pepsin as an injection into the bladder of a patient who had hæmaturia, and in whom a catheter failed to empty the bladder. A few hours later, a dark, viscid, fœtid fluid readily escaped through the catheter.

Dr. Ed. Rosenthal has used an acidulated and concentrated solution of pepsin as a local, hourly application to diphtheritic exudations of grave character, and reports that it caused rapid solution of the membrane.

The solution was made with a drachm of Jensen's pepsin, twenty drops of chemically pure hydrochloric acid, and enough water to make a fluid ounce.—*New Remedies*.

ABSORPTION BY THE SKIN OF SUBSTANCES DISSOLVED IN WATER.—At the meeting of the Académie de Médecine, held October 3, 1882, M. Aubert read a paper with the above title, of which the following are the conclusions:

1. Certain substances dissolved in water may penetrate the skin without their being any external or apparent abrasion of the latter.

2. It appears, however, that there must always be some loss of continuity in the epidermis of the sheaths of the hair bulbs.

3. Absorption is always most active in hairy regions.

4. It is favored by all circumstances, such as friction, which favor injury to the hair follicles.

5. No absorption can take place from medicated baths, no matter how prolonged, unless friction is employed at the same time.—*L'Abeille Med.*, October 9, 1882.

It is reported that the trustees of the Johns Hopkins Hospital intend to open that institution and the medical school to be connected with it in the fall of 1883.

DEATH FROM MALE FERN.—A case of some toxicological and medico-legal interest has recently occurred in Ceylon. A medical practitioner of good reputation had a patient from whom he had made several unsuccessful attempts to remove a tape-worm. A final effort was resolved upon, and the physician prescribed *one and a half ounces* of ethereal extract of male fern, and three drachms each of powdered kamala and pomegranate root, in a vehicle of mucilage, syrup and cinnamon water. The directions were that it should be taken in divided doses at an interval of three or four hours. The pomegranate root was omitted by the dispenser, who informed the physician of the fact. The patient took the first half of the prescription at bed time, and began to feel much distress, but took the second at 2 A. M., as directed. He became worse, and medical attendance was summoned, but he died before morning, after diarrhœa (which expelled the worm,) vomiting, cramps, and symptoms of collapse. The attendant certified the death as due to "choleraic diarrhœa." The autopsy gave signs of an irritant poison, and a strong smell of ether pervaded the intestinal canal. The defense was that the prescription was taken from Dr. Naphey's Medical Therapeutics, and was recommended on the authority of Dr. Brunton, of London. Query was made whether the one and a half ounce of male fern was not a misprint. But the fact that this occurred in a seventh edition of the book was considered rather against that explanation. In view of the eminent authority on which the treatment was based, and the good faith of the practitioner

no further prosecution was made. The ethereal extract, which is practically identical with the oleoresin of the United States Pharmacopœia, is ordinarily recommended in doses of from one and a half to two fluid drachms, and some recent writers have given special warning against its irritant action.—*Boston Medical and Surgical Journal*.

[Dr. Brunton denies in *British Medical Journal* that he recommended such a dose. From what we can learn the blunder was made in Naphey's Therapeutics in which the dose was misquoted.]

MERCURIAL SALIVATION.—At a recent lecture at the Hotel-Dieu, Dr. Panas (*Gaz. des Hôp.*, No. 9) strongly insisted on the employment of means for the prevention of mercurial stomatitis, which in his opinion, is no indication of the system being saturated with mercury. It is a complication which greatly impedes treatment when it occurs, and which depends upon an anterior alveolo-gingival stomatitis, and may be always prevented by curing in advance, by local means, the condition of the gums and alveoli. This treatment consists first in the removal of the tartar, and then in the application of substitutive topical substances, the chief of which employed by Dr. Panas are tincture of iodine, and carbolic acid diluted to a twentieth; these substances, to be of use, being introduced to quiet the bottom of the alveoli. If the gums are quite healthy, and astringents are applied daily (as tannin, catechu, etc.), they may be kept sound and healthy however long the mercurial treatment is continued; and when patients come in with ulcerated or bleeding gums, and loosened and displaced teeth, this condition of things may be remedied in a few days by the above mentioned procedure. If such a precaution be not taken, the irritating action of the mercury exasperates the stomatitis and brings on salivation. Dr. Panas considers the much-praised chlorate of potash quite inefficacious in salivation, and even capable of doing harm by the irritation it produces.—*Medical Times and Gazette*, Nov. 4, 1882.

TRANSMISSION OF SYPHILIS—Dr. Lesser formulates (*Deutsche Med. Zeit.*, No. 41) his experience bearing on this question in three propositions:—1. Both or either of the parents diseased before the impregnation may transmit syphilis to the offspring. 2. Both

parents being healthy at the conception, yet the mother can infect the fœtus by means of the placental circulation. 3. The father being infected, the mother remaining healthy until after the conception, the latter may yet become diseased from the fœtus by way of the placental vessels, or her constitution may be so altered as to render her proof against syphilis. This last proposition Lesser gives as tentative, but as best explaining the present known facts.—*Med. Times and Gazette*

ADVERSE OPINIONS ON TRANSFUSION.—Prof. Verneuil recently objected to the operation as a dangerous one, from which he had never seen any ultimate good derived, while the advantages which are said to attend its employment are obtainable by the hypodermic injection of ether. Recently, also, at the German Congress at Eisenach, Prof. König, of Göttingen, observed (*Berliner Klin., Woch.*, October 2) that formerly he was a warm advocate of transfusion, but that he has come later, like the majority of living surgeons, to think little of it. He has only quite exceptionally, and perhaps never, seen a favorable result follow its use, while from the injection of ether good effects are sometimes obtained. He therefore warns us not again to fall into the former prevalent transfusion-deception (*Transfusionsschwindels*). Prof. Schede stated that he was of much the same way of thinking as König, and now resorted to transfusion much seldomer than formerly.—*Medical Times and Gazette*.

QUAIN'S DICTIONARY OF MEDICINE.—The new Dictionary of Medicine, long looked for is just published by Longmans London. Among the leading contributors, are Sir William Jenner, Sir James Paget, Sir Henry Thompson, Mr. Cadge, Capt. Douglas Galton, Mr. Simon, Dr. Brown-Séquard, Drs. Charlton Bastian, Buzzard, Broadbent, Bristowe, and others; and in this country Dr. Joseph Jones, of New Orleans.

WHY IS CHLOROFORM SO WELL BORNE IN MIDWIFERY?—It has long been a recognized fact that the administration of chloroform in midwifery is not followed by the deaths which so frequently happen when it is given during surgical operations. No explanation

has, so far as I know, yet been given. The explanation, I believe, lies in the condition of the heart and vascular system during pregnancy. The changes undergone by the heart and vascular system during gestation are well known. The heart becomes hypertrophied, the venous system becomes enlarged by the distension of existing veins, and the development of fresh venules. The quantity of blood is increased. When chloroform produces fatal syncope, it does so by its depressing action on the heart. The weaker the heart the more readily does it succumb to the paralyzing action of chloroform. This is well known. When, however, the heart is strong, stronger than usual, as in the hypertrophied heart of pregnancy, it can more easily withstand the action of chloroform. Is not this the reason that the hypertrophied heart of pregnancy is unaffected by chloroform? I think it is clearly so.—*Fancourt Barnes, M.D., in British Medical Journal.*

BOOKS AND PAMPHLETS RECEIVED.

A System of Surgery; Pathological, Diagnostic, Therapeutic and Operative. By Samuel D. Gross, M.D., LL.D., D.C.L., Oxon; LL.D., Cantab., etc., etc. Illustrated by Upwards of 1600 Engravings. Sixth Edition. Thoroughly Revised and Greatly Improved. In Two Volumes. Philadelphia: Henry C. Lea's Son & Company. 1882. Pp. 1194 and 1174.

Slight Ailments: Their Causes, Nature, and Treatment. By Lionel S. Beale, M.D., F.R.S. Second Revised Edition. Enlarged and Illustrated. Pp. 283. Philadelphia: P. Balkiston, Son & Company, 1012 Walnut Street. 1882. Price in paper 75 cents.

A Guide to Therapeutics and Materia Medica. By Robert Farquharson, M.D., Edin. Third American Edition. Revised by the Author. Enlarged and Adapted to the U. S. Pharmacopœia by Frank Woodbury, M.D. Philadelphia: Henry C. Lea's Son & Co. 1882. Pp. 526.

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NORTH CAROLINA MEDICAL JOURNAL.

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ORIGINAL LECTURES.

TREATMENT OF DISEASES OF THE HEART.*

Lecture by Professor DUJARDIN-BEAUMETZ, Paris, France.

LECTURE I.—TREATMENT OF MITRAL COMPENSATED AFFECTIONS.

SUMMARY : *Diseases of the Heart—Their Division—Mitral Diseases—Sequence of Symptoms in Mitral Affections—Compensatory Hypertrophy—Rules of General Therapeutics—History of the Therapeutics of Diseases of the Heart—Mitral Compensated Lesions—Hygienic Treatment—Exercise—Diet—Alcohol and Tobacco—Influence of Climate and of Compressed Air—Moral Hygiene—Hydropathy and Baths—Influence of Pregnancy ; of Traumatism ; Medicaments—Dangers of Digitalis—Bromide of Potassium.*

GENTLEMEN :—In beginning our course with the study of diseases of the heart we shall find this subject admirably adapted to illustrate the utility of clinical therapeutics, as set forth in the last lecture. In fact, we are generally in presence of a chronic disease, incurable in itself and considered as such ; at the same time,

*Translated for the NORTH CAROLINA MEDICAL JOURNAL, by permission of the author, by E. P. Hurd, M.D., of Newburyport, Mass.

despite these unfavorable conditions, I shall show you by numerous instances, that the physician, far from being impotent, may, thanks to a well directed treatment, have a favorable and dominating influence on the march of these affections.

But before studying the divers means which we possess of relieving cardiac patients, and ameliorating their condition, some preliminary considerations seem necessary concerning the evolution of diseases of the heart.

These affections, as you are aware, are divided into two great groups :

1. Those which are acute and accompanied with fever.
2. Those which, on the contrary, have a slow and progressive march.

ORGANIC DISEASES OF THE HEART.

In these lectures on Clinical Therapeutics we shall consider more especially the latter ; these constitute, properly speaking, the veritable heart diseases, which you will oftenest observe, and which will demand from you the most intelligent treatment. In fact, in the immense majority of cases (and our hospital practice shows this clearly,) when we examine a patient with an affection of the heart, we find a lesion of one of the orifices ; and almost always, it is the left side which is at fault ; therefore, we shall treat exclusively, or nearly so, the alterations of the orifices of the left side of the heart, and the troubles which these produce in the cardiac mechanism.

From the stand-point of internal pathology authorities have multiplied the divisions of heart diseases, and successively studied as a special affection, not only the several alterations of the orifices, but also the troubles which arise from them.

From the stand-point of therapeutics we can very much simplify matters, and you will see that all is summarized in the study, on the one hand of the lesions which affect the mitral orifice, and on the other, of those which affect the orifice of the aorta. This division is important, and because certain authors have not well observed it, great confusion has been brought into the study of the treatment of cardiac affections.

TREATMENT OF MITRAL COMPENSATED AFFECTIONS.

We are then going to occupy ourselves successively with lesions of the mitral and lesions of the aortic orifices. But before setting forth the means at the disposal of the physician in the treatment of these respective lesions, we shall preface each of these chapters by a brief exposition of the concatenation of the different morbid phenomena which have these lesions for their point of departure, and which by their assemblage constitute the heart diseases.

Michel Peter in his *Lessons* has described in a masterly manner, the march of these alterations, and he has indicated to us how, from being local affections which they were at first, soon become general diseases. Let us then commence with mitral lesions, and take as an example a patient, who, as a sequence of an attack of rheumatic endocarditis, has developed lesions of this valve. We are not obliged to distinguish, from a clinical point of view, insufficiency from stenosis, for the one always produces the other, and we have yet to find isolated cases of the one or the other of these affections.

The first effect of this double alteration will be to produce a distension of the left auricle; on the one hand, because the circulating blood being retarded in its passage from the auricle to the ventricle will accumulate in the former; on the other hand, because at each contraction of the ventricle a part of the blood will flow back into the auricle. At the end of a certain time this distension will attain the pulmonary veins, (Rigal has well shown this alteration of the walls of the vessels in the heart affections); then little by little there is stasis in the entire pulmonary circulation. In order to overcome the obstacle thus interposed to the exercise of its functions, the right ventricle, charged with regulating the lesser circulation, augments its muscular action and undergoes both hypertrophy and dilatation. The right auricle participates in the distension, which reaches the great veins, and the stasis becomes general throughout the venous system. The greater, or arterial circulation is now affected in its turn, and the left ventricle becomes hypertrophied and dilated, in the endeavor to overcome the obstacle opposed to its function; this hypertrophy is compensatory.

But in the course of the venous system important organs are involved, organs which have a preponderating influence in blood for-

mation, the liver and the kidneys ; thus to the mechanical troubles of the circulation, we see little by little succeed profound alterations of the blood, and then we have attained that particular condition described under the name of cardiac cachexia.

I have thus endeavored to show you that the heart plays a compensatory part, and in this respect I am in accord with the luminous ideas of Beau on "Compensatory Hypertrophy."

For Beau has made it clear that if an obstacle presents itself to the regular functioning of the heart, the latter in order to overcome the obstacle, contracts with greater energy, and this increase of labor brings with it an increase of the heart muscle. Therefore, we ought not, as the old authorities taught, to oppose this hypertrophy ; but, on the contrary, to favor it, and the entire treatment of chronic diseases of the heart is summed up in one brief sentence—*make the heart equal to its task.*

But every exaggerated physiological work of muscle, if it brings with it an increase of volume of the muscle, produces also phenomena of chemical combustion which modify rapidly the structure of the muscular fibrillæ, so that they lose their contractile properties. The cardiac muscle does not escape this general law ; to the physiological augmentation of its muscular elements soon succeeds a granulo-fatty degeneration, and then supervene the local troubles of the heart, then general perturbations of the circulation, then finally, cardiac cachexia, because the heart has become powerless to compensate the lesions whose starting point was the hypertrophy.

GENERAL RULES OF THERAPEUTICS.

So then, gentlemen, to the first rules which we have laid down respecting the therapeutics of the heart, we will add another, and the whole will now read:—make the heart equal to its task ; oppose, as much as possible, the granulo-fatty degeneration of this organ. This formula sums up the whole therapeutics of mitral affections. But in attaining this generalization, we have gone through several successive phases, the history of which is of great interest.

We must assign a relatively recent date to the therapeutics of affections of the heart, and it is not until the end of the last century that we find the first elements of a rational treatment. Until

then and in spite of the immortal discovery of Harvey, (1619 to 1628) clinical attainments were meagre, and therapeutics almost *nil*. Senac (1749) was the first to trace for us a methodical tableaux of these affections, and suggest the means of treatment. Corvisart (1811) completed this study, and for many long years these two authorities furnished the therapeutical indications applicable to cardiac patients. But Avrenbrugger (1760) then Lænnec (1819) by their discoveries supplied the data for a more precise study of diseases of the heart; they isolated the affections of the orifices, distinguishing them from that augmentation of volume which alone had attracted the attention of preceding physicians, and which, under the name of active or passive aneurism of the heart, constituted the dominant disease, against which all the efforts of therapeutics were directed.

Bouillaud by his memorable researches, demonstrated the etiology of these affections, and little by little, by virtue of the graphic methods the study of which Marey has pursued so far, and the constant progress of physiology, the mechanics of the heart became much more completely known, and clinical observation studied each of the cardiac movements, and determined the connections.

While physiologists and clinicians were thus analyzing the cardiac affections, pathological anatomy was making progress; it was pointing out to us the intimate lesions of the myocardium; it was explaining to us by these alterations, the error committed by our predecessors, who seeing mechanical troubles of the circulation coëxisting with voluminous hearts, had confounded the two widely different periods of cardiac enlargement, the hypertrophy on the one hand and the granulo fatty degeneration on the other.

COMPENSATED DISEASES OF THE HEART.

We shall then accord the primordial rôle in therapeutics to the modifications which the heart muscle undergoes in consequence of alterations of the orifices. We shall divide the affections of the mitral orifice, which occupy us more particularly at this moment, into two periods; in the first the lesion is compensated, that is to say, by increase of power and volume the heart opposes the local and general troubles; in the second period, on the contrary, compensation is impossible. It is then that we see successively unfolded all the phenomena characterizing the confirmed disease; a disease

which beginning with local troubles of the heart, ends, by successive stages, in cardiac cachexia.

The remedial measures at the disposal of the physician vary according to the different periods. We begin by the exposition of the therapeutics of diseases of the mitral orifice when compensation has been effected.

Hygiene has the principal part in the therapeutics of these affections, therefore we shall insist strongly on the leading hygienic indications which the physician ought to fulfil ; they have to do principally with exercise and diet.

Exercise has an importance that is considerable in the development of affections of the heart. You know, in fact, that in the physiological state, under the influence of prolonged and sustained efforts, the heart suffers a brief asystolism ; this state which has been described as fatigue and overwork of the heart, disappears rapidly in individuals whose heart is sound, but presents a certain gravity in persons affected with a lesion of the mitral ; and it is easy of comprehension how prolonged exercise augments the mechanical trouble of the circulation. Therefore patients with mitral affections should be allowed regular exercise, but moderate, not prolonged, and in the case of children you must interdict gymnastics, excursions, ascensions, and rapid walking and running.

CHOICE OF PROFESSIONS.

You will often be consulted by parents as to the choice of a profession for a young man with a mitral lesion as the result of an attack in infancy of acute articular rheumatism. You will, of course, advise those occupations which demand little muscular effort, and especially those which permit a sedentary life. But in good earnest, what you ought absolutely to proscribe, is the practice of our profession, which, besides the daily draught on the emotions, necessitates on the part of the practitioner, great fatigue of body, as well in performing the long journeys, if he practices in the country, as in mounting stairways, if he lives in a large city.

This influence of exercise and manual labor is so preponderating in mitral affections, that it establishes, from the stand-point of prognosis, a considerable difference between the man of ample means who can dispose of his time as he pleases, and the day-laborer who is obliged to toil incessantly for his support.

The influence of social inequality is here conspicuous ; while the first can mitigate and postpone, to a greater or less extent, all the phases of his malady, the other, on the contrary, the instant he renews his daily tasks, experiences a return of all the mechanical troubles of the circulation.

This is what we observe every day in our wards; you see men, yet young and vigorous, who carrying about with them a mitral affection, come to the hospital to combat the first local symptom of their disease. Rest and the application of well understood hygienic principles, cause these local symptoms to disappear, and the man recovers his vigor, but as soon as he resumes his customary work, the same symptoms are reproduced under the influence of fatigue, and he is again compelled to enter the hospital. Thus this workingman who would otherwise be capable of sufficient toil, is disabled from all continuous labor by the fact of his heart disease.

DIET.

By the side of exercise we must place the dietetic regimen which plays an important part in the treatment of diseases of the heart.

At the epoch when it was considered necessary to subject patients with hypertrophy of the heart to depleting treatment, Senac, Morgagni, Scarpa, Valsalva, Albertini, Corvisart and others made a spare diet one of the principal elements of their therapeutics, and this mistake was perpetuated until the beginning of this century. Never, gentlemen, has low diet had a favorable influence on the progress of a mitral or aortic lesion. It can only favor the enfeeblement of the heart muscle, and through that the development of mechanical troubles of the circulation. At the present time these erroneous views are abandoned, and a nourishing and invigorating regimen is uniformly advised for cardiac patients.

But it must be understood that this regimen must not exceed certain limits ; it is necessary that the food which is taken shall be rapidly digested, and that it shall not determine in the stomach a distension oppressive to the functions of the heart and lungs ; in a word it is necessary that this nourishment shall be substantial and supporting, but in little bulk.

It is moreover necessary that the abdominal functions should be regularly performed ; avoid constipation ; combat it, when existing,

by mild laxatives (aloes for example) or by the purgative mineral waters, (Pullna, Frederickshall, Hunyadi Janos).

USE OF ALCOHOLIC DRINKS.

But if you may be liberal in the variety of foods and drinks which are permissible to cardiac patients, there is, nevertheless, one point concerning which the utmost caution and reserve are necessary ; I refer to the use of alcoholic liquors.

Limited to a wineglassful after meals, alcoholic stimulants have no injurious effects, they promote the digestive function; but it is not so when passing this limit, an abuse is made of these beverages. This abuse is most prejudicial to all heart affections, and cannot fail to favor and promote that granulo-fatty alteration whose coming we ought to retard as much as possible.

USE OF TOBACCO.

Tobacco, like alcohol, is dangerous to cardiac patients and should be altogether interdicted. If, in fact, we leave to one side certain troubles of short duration, and even a species of chronic poisoning determined in man by the abuse of tobacco, we see that tobacco, or, more strictly speaking, its alkaloid nicotine, has a quite special action on the spine and nervous system. In large doses, as Claude Bernard has shown, it increases the beatings of the heart, and produces intermittences, and this explains to you how disastrous are its effects in every form of cardiopathy. Graves, Beau, Jolly, Decaisne, Bertillon have for a long time called attention to these facts, and everybody now knows that peculiar state of angina developed by the use of tobacco. Forbid, then, smoking to your patients, as well as living in an atmosphere charged with tobacco smoke. Endeavor to convince them of the grave consequences sure to result to them if they do not put an end to a vicious and dangerous habit which cannot but aggravate their complaint.

MORAL HYGIENE.

By the side of these grand precepts of hygiene, must be mentioned moral hygiene, which is no less important, and it is well to remember that just remark of Michel Peter, "the physical heart

is the counterpart of a moral heart." In fact, all passions, political and social, all strong emotions have a direct influence on the heart; they increase its action and thus aggravate any existing disease. It is well then that the cardiopathic should shun excitements—of whatever kind—that he should eschew gaming, politics, the cares of business, speculation; in a word that he should cover himself with a thick coat of mail which shall be impenetrable to all those emotions whose assault cannot but aggravate his condition and accelerate the march of the fatal consequences.

But these precepts of general and moral hygiene do not always suffice, and there are other points on which we ought to insist.

CLIMATES.

What climate shall you recommend to patients suffering from cardiac diseases? Above all, mild temperate climates, with cool, rather than warm weather. Avoid climates that are excessive; in cold climates pulmonary troubles are frequent, and these affect unfavorably the functions of the heart; in too warm countries the patient will have to contend with the anæmia so common in torrid regions, the intestinal troubles, diarrhœas, dysenteries, malarial poisonings, and numerous other causes of general debility.

Recommend to your patients to shun sudden variations of temperatures, and air too much charged with moisture. The cardiopathic should choose a well aired habitation, little exposed to violent currents of air, and consequently, rather in a valley sheltered from winds, and from moisture, than on the top of a hill, or in a mountainous situation.

What estimate shall we place upon baths, and how far may we expect good results from hydrotherapeutics in general.

We have but few words to say respecting baths of compressed air; this question is still undecided, and the results obtained are too uncertain to enable us to draw precise data from them.

As for warm baths, you may permit them to your patients; indulged with prudence, without being too prolonged or too often repeated they are without inconvenience.

But it is not so with baths that are too warm, or with sea or river bathing in water that is cold. They are as prostrating as vapor baths, and must be forbidden.

In fact, cold water, and especially sea water is likely to provoke multiple accidents, and among others, active local congestions, especially of the lungs; these you well know cannot but augment the disturbance of the lesser circulation, which is one of the first of the manifold evils so prone to follow in the train of mitral lesions.

Have a general oversight, then, of your patients; recommend to them caution, and remember that disastrous results have often followed sea-bathing, practiced inconsiderately by cardiopathics.

Some medical authorities, however, have thought that hydrotherapy might be beneficial in spite of the facts reported by Fleury, Bouillaud, Hertz, Michel Peter and others, I believe it will be best for you to proscribe these measures, and when reading the observations cited in support of the employment of cold douches in mitral affections, we are led to ask if these cases were not rather cases of anæmia and functional disturbance than veritable lesions of the heart. For my part I agree with Beni Barde that hydrotherapy is contraïndicated in compensated affections.

This leads me to speak of the use of mineral waters, and to ask if there exist natural waters having a curative influence on affections of the heart. We think not. Doctor Dufresse de Chassaigne, however, maintains that the waters of Cantal and Baquols (Lozère) have a curative action on hypertrophy of the heart; he has cited numerous observations where he pretends to have cured aneurism of the heart by the employment of these waters.

This authority has gone farther; he has localized in the sulphurets common to these two springs the special element that is beneficial. We believe that Dufresse de Chassaigne is laboring under a delusion. To cure hypertrophy in a patient affected with mitral lesion would be a sad service to render him; it would have to be shown then that these waters have a special action on the damaged orifices; a difficult matter to prove.

We think, therefore, and here we are in agreement with Borden, Durand Fardel, Cardelli, that mineral waters, and particularly the sulphurous waters, have an injurious effect upon the course of heart diseases, and are contraïndicated.

These chapters on hygiene, gentlemen, would be incomplete if we did not speak of the influence of pregnancy on the march of affections of the heart, for this condition has a predominating in-

fluence, from a hygienic stand-point, in females who are the subjects of mitral valvular lesions.

Since Larcher has demonstrated the hypertrophy of the heart accompanying pregnancy, and especially since Durozier, Peter, Sée, Budin, Martin, Angus MacDonald, have traced so clearly the influence of pregnancy on affections of the heart, and reciprocally, the physician ought to have his attention aroused on these points, and be prepared to instruct females affected with disease of this organ, that pregnancy is sure to aggravate the situation.

This influence is two-fold, in fact, and shows us on the one hand that if pregnancy augments the hypertrophy of the heart and hastens the granulo-fatty evolution of the organ, on the other hand it shows us also that miscarriages are frequent accidents with women affected with heart disease.

Professor Verneuil who has applied with so much success to the study of surgery the data of general pathology and who has pointed out to us the influence of the great diathesis on traumatism, and reciprocally, has not omitted the affections of the heart; he has shown the injurious influence of traumatism on cardiac maladies, and of these latter on the accidents resulting from external causes.

The drugs of the *Materia Medica* have but a secondary place in the treatment of compensated diseases.

Digitalis is contraïndicated, and when we come to speak of the non-compensated maladies, I shall show you that it is in these cases alone that digitalis ought to be employed. Marvellous medicament when it is managed as it ought to be; when not managed properly and not indicated, it cannot but give deplorable results. If complaint has been made of the employment of digitalis and its preparations, if the dangers have been pointed out, if even certain physicians have abandoned the use of this valuable therapeutical agent, it is because certain necessary precautions have been neglected. Bear in mind then, that digitalis is inadmissible in compensated affections.

Iron has been extolled, and in particular the English physicians, Scott, Alisin, Jones, have stated the advantages which may be derived from a ferruginous treatment. Spite of the opinion of these authorities, we fear that an error has been committed, and if iron, and the martial preparations have affected a cure of certain

cardiac troubles, we feel confident that the treatment was with anæmic difficulties rather than with valvular lesions.

Therefore, even in spite of its valuable tonic properties in consideration of the conjectures which may follow the administration of the ferruginous preparations, we are oftener led to proscribe them than to order them, even if the mitral affection is accompanied with anæmia. We much prefer quinine, and especially arsenic.

Arsenic, in fact, in the anæmia of certain affections of the heart will give you all the advantages or the martial preparations without any of the disadvantages; over and above its tonic action on the heart it stimulates the general functions, improves the appetite, and by this, of itself combats the anæmic disorders.

Among medicaments we must mention bromide of potassium whose use will be more especially indicated when we come to treat of the non-compensated mitral affections, but which may, even in the first phase of the disease, render great service.

In fact in the case of a good many patients as especially nervous females, in the beginning of mitral affections, pains are felt, sensations of oppression, insomnia, phenomena purely nervous, and which are alleviated by bromide of potassium. This remedy may be prescribed to advantage as follows :

R.

Bromide potassium, grammes xv. (about $\frac{3}{4}$ ss.)

Water " CCL (" f $\frac{3}{4}$ viij.)

M. Sig. A tablespoonful in some bitter infusion (as infus. valerian, hops or Columba). It may be given in milk. You may use as a vehicle the syrup of bitter oranges.

As for ptisan, they are but of little consequence, though certain authorities have vaunted their utility.

Thus Williams and Sylvester have recommended *peppergrass* (*Lipidium, latifolium, iberis, ruderalis sativum*), in powder, in the dose of 15 to 20 centigrammes, (2 to 5 grains). These herbs belong to the cruciferae, and are slightly aromatic and stimulant. Lombert of Geneva, has noted good results from *polygale seneca*, (the Virginia snake root, administered in infusion or decoction, one ounce of the root to a pint or a quart of water).

Andral recommends the syrup of asparagus. But we repeat, these herbal preparations are of only hypothetical utility.

Such gentlemen is the assemblage of therapeutical measures at the disposal of the physician in the treatment of the compensated mitral affections, and as we said in the commencement, we see that the principal part appertains to hygiene. It is by virtue of careful attention to hygiene that we are enabled to retard the manifestation of disorders which characterize the second stage of these affections; a period better known and which demands therapeutics of a more active kind, to which we shall denote in the next lecture.

[NOTE BY TRANSLATOR.—The title affixed to this lecture, a “Treatment of the Compensated Mitral Affections” seems to be somewhat misleading, for if the lesions were fully *compensated*, no treatment would be necessary. It is because there is *not* adequate compensation that we are called upon for the exercise of professional assistance. To “render the heart equal to its tasks,” and “to combat the granulo-fatty degeneration,” is as the author says, our aim in treatment. Unfortunately it is never easy to meet these indications. Sometimes (and in fact generally) instead of rendering the heart equal to its ordinary tasks, all we can do is to lighten those tasks in correspondence with the heart’s diminished capacity for work. To meet the requirements of the second rule, the most that we can do is to maintain the general health in the highest possible state of efficiency. Here hygiene is, as the author shows, everything, and medicines have a secondary place.]

JONATHAN HUTCHINSON’S ADVICE TO MEDICAL STUDENTS.

“If now I were to sum up in one sentence what I have been enforcing it would be this: The secret of all noble life lies in belief, and the characteristic of all noble minds in the vigor with which they believe that which is true. Try to attain belief in the reality of all things, so shall you never want for motives, so shall you be able to live and work without hurry and without sloth. Finally permit me to commend to you this formula: prize strength, love the beautiful, practice self-denial, and be patient.”—*Canadian Journal of Medical Sciences*.

SELECTED PAPERS.

THE DIAGNOSIS OF DISEASES OF THE SKIN.

By DR. MCCALL ANDERSON.

B.—ORGANIC AFFECTIONS.

I.—THOSE DEFINED BY UNIFORM CAUSES.

2. *Syphilitic Affections of the Skin.*

A. *Acquired Syphilis.*

As is well known, there are three forms of primary venereal disease :

1. Gonorrhœa, which may induce orchitis or bubo, or may lead to an affection of the eyes (gonorrhœal ophthalmia), or of the joints (gonorrhœal rheumatism), but which never otherwise affects the system.

2. The non-infecting (soft) chancre, which is always a local sore, though it may spread by inoculation of neighboring parts, or by absorption of the secretion by the lymphatics, producing suppuration of a neighboring gland, the pus from which is identical with, and as infectious as, that secreted by the sore itself.

3. The infecting (hard, indurated, or Hunterian) chancre—which, however, is not invariably hard and indurated—which always infects the system, unless in rare instances, when the patient has previously suffered from syphilis, when the system *may* apparently escape re-contamination.

It is only the last of these three forms of venereal disease which is of interest to us at the present time, because it alone can give rise to skin affections; but in the diagnosis of the latter, it is often of importance to decide whether a sore preceding a given eruption has been of a non-infecting or of an infecting character. With the view of elucidating this point the following table is appended:—

INFECTING CHANCER.

1. Four times less frequent than non-infecting chancre.

2. Appears from ten days to six weeks after exposure to infection.

3. Often more like an abrasion of the cuticle than a distinct ulcer; cup-shaped, and with an ash-grey base; rarely attacked by phagedæna.

NON-INFECTING CHANCER.

1. Presumption always in favor of non-infecting chancre, being so much commoner.

2. Appears within two or three of exposure to infection.

3. A distinct ulcer, usually with perpendicular edges, as if made with a punch; base irregular and honey-combed, often attacked by phagedæna.

4. Hard—sometimes of almost cartilaginous consistence—and distinctly circumscribed. Induration absent in one-twentieth of cases in men, and oftener in women.

5. Secretion scanty, thin, and watery.

6. Inoculation of secretion produces hard chancre in others, especially if they have not had the disease; but not usually auto-inoculable, because one infecting chancre usually protects the system from a second.

7. Generally solitary, but if more than one chancre they commence at same time, for reason above given.

8. Heals readily unless irritated by treatment.

9. Cicatrix comparatively trifling, and may not disappear entirely.

10. Usually followed within a few weeks by indolent non-suppurating enlargement of neighboring glands (in inguinal regions of chancre on penis).

11. Always followed by constitutional symptom, unless patient had the disease before, when they may be absent.

12. Mercury hastens healing of the sore, and disappearance of the induration.

4. Often some hardness from simple inflammatory infiltration, but never cartilaginous; not so distinctly subscribed, and though edges may be hard, centre usually soft enough to allow sore to be doubled up between fingers.

5. Secretion abundant and purulent.

6. Inoculation of secretion produces soft chancre in person affected as well as in healthy persons, because one soft chancre is no protection against others.

7. Often a succession of soft sores from inoculation of neighboring parts by pus from original sore, for reason above given.

8. Heals with difficulty, sometimes after months.

9. Cicatrix more marked, and generally permanent.

10. Often followed by absorption of virus from sore, and suppuration of one gland, the pus from which is virulent like that from the sore itself.

11. Never followed by constitutional symptom.

12. Mercury generally has no effect upon it, or may even retard healing process.

It is right to mention that the infecting chancre is not uncommon on other parts than the genital organs, and that it does not necessarily result from impure connection. I have often met with it on the fingers of medical men, who have been inoculated in making vaginal examinations; on the lip—generally as the result of inoculation of the secretion from secondary sores on the lips of patients suffering from syphilis, or of infants affected with hereditary syphilis and from smoking pipes or cigars which have been in the mouths of syphilitic subjects. It may also be communicated by the use of Eustachian catheters or other instruments previously employed in the case of patients tainted with syphilis, and not properly cleansed, and occasionally through the medium of vaccine lymph (especially if mixed with blood) taken from a syphilitic

child. Finally, to show how unexpectedly syphilis may be transmitted, the following case reported to me by my friend, Dr. Hector C. Cameron, may be mentioned:—A man having a “black eye,” a friend, who had syphilitic sores in his mouth, endeavored to cure it by puncturing the part and sucking it; three weeks thereafter a hard chancre appeared at the site of puncture, followed by neighboring adenopathy, syphilitic eruption on the skin, etc.

The course of syphilis may be modified or interrupted by intercurrent diseases, especially fevers, which may cause the disappearance of the symptoms for a time, but only while the fever lasts; and in those who are tainted, manifestations of syphilis may be brought out in various ways. Thus, excessive smoking may call forth, or keep up indefinitely, syphilitic ulceration of the mouth, tongue and throat, and a blow or injury of any kind may induce manifestations in the part injured. They may also be called forth by excessive bodily fatigue or mental anxiety. Hardy mentions the case of a man who was shipwrecked, and who for many hours was in a most precarious position; fifteen days thereafter a severe tertiary syphilitic eruption made its appearance, although twenty-five years had elapsed since the entrance of the poison into the system. Syphilitic eruptions may also be called forth by the employment of irritating local applications, such as sulphur ointment; and at some of the thermal establishments in France Aix-la-Chapelle, for example—this circumstance is utilized with the view of determining whether the poison in the system is still active and requiring treatment.

Finally, hot weather has sometimes the effect of calling forth cutaneous manifestations of syphilis, and on the same principle the skin and superficial parts are most apt to suffer in warm, the deeper parts in cold climates.

Syphilitic eruptions are generally divided into two classes:

1. Secondary eruptions (early manifestations of syphilis).
2. Tertiary eruptions (late manifestations of syphilis); which merely mean that some have a tendency to appear soon, others long after the entrance of the poison into the system; and it may be remarked, in passing, that the character of the eruption depends a good deal upon the intensity of the poison, and upon the general health and constitution of the patient. Hence an eruption, as has

been observed by Ricord, is likely to be of a dry nature when the constitution is good, while there is a great tendency to suppuration and to ulcerations under opposite conditions, a circumstance which must be borne in mind in connection with the treatment. Syphilitic eruptions are variously named, sometimes from the predominating elementary lesion (e. g., papular syphilitic eruption, tubercular syphilitic eruption, etc.) sometimes in accordance with the non-syphilitic eruption which they most resemble (e. g., roseola syphilitica, psoriasis syphilitica, etc.), to which there is no objection *so long as it is understood that there is no real relationship, but only a resemblance, between them.*

Before considering the eruptions in detail it may clear the way if we refer in the first instance to the

GENERAL DIAGNOSIS OF SYPHILITIC ERUPTIONS.

The following points must be attended to :—

1. *The History of the Case.*—The clear history of an infecting chancre is often of great value in diagnosis, but it is often difficult to obtain, partly from a desire for concealment on the part of the patient, partly because he may have forgotten or may even be ignorant that he has ever suffered from such a lesion; and even when got it is only of value if the interval of time which has elapsed between the contraction of the disease and the appearance of the eruption is in fair accord with the natural history of the disease. Thus a roseola making an appearance years after the contraction of the chancre has evidently no connection with it, seeing that it usually occurs within two or three months of infection; and an eruption of groups of large tubercles occurring within two or three months of infection has probably no connection with it, for it has little tendency to manifest itself in the early stages of disease.

2. *The Detection of Concomitant Symptoms of Syphilis.*—The earlier syphilitic eruptions are apt to be associated with such symptoms as superficial symmetrical ulceration of the throat and mouth generally, enlargement of the posterior cervical glands, falling out of the hair,* iritis, etc., the latter with painful nodes upon the

*Loss of hair (syphilitic Alopecia) is one of the earliest and most frequent of the manifestations of syphilis, and is due to interference with the nutrition of the hair follicles by the taint in the blood, although it is attributed by Hebra to the occurrence of Seborrhœa of the scalp. There is a general thinning of the hair (usually

shins and other superficial bones, enlargement of the testicle, little subcutaneous tumors, and syphilitic diseases of internal organs.

3. *Syphilitic eruptions are usually symmetrical*, and this may be of value in diagnosis, in helping to distinguish, for example, ring-worm of the body, which is usually unsymmetrical (being due to a local cause), from a circular syphilitic rash resembling it. It is right, however, to remark that this feature applies only to the earlier, and not to the later manifestations, the latter, according to Hutchinson, being "due rather to the ill-constitution of the affected structures than to any free virus still circulating in the blood."

4. The eruption is often *polymorphous*, that is to say, it is common, in connection with the earlier manifestations at all events, to find two or three different kinds of eruptions at one time on the same patient. Thus it is far from unusual to see a papular eruption (lichen syphiliticus) mingled with a roseolous one (roseola syphilitica) and an eruption of flat tubercles (condylomata) at the anus.

5 Syphilitic eruptions often assume a *coppery tint*, especially after they have been present for some time: they thus contrast with the majority of simple inflammations of the skin, which are usually more or less rosy, and with strumous eruptions, which are violent in tint. It must be remembered, however, that the patches of the non-syphilitic psoriasis have sometimes a somewhat coppery color, although it is not usually so intense as in a typical chronic syphilitic eruption, and that non-syphilitic eruptions, below the knees, especially if complicated with varicose veins, may assume a pretty deep brown color.

6. There is usually an *absence of pain and itching*; the latter,

of the head only), which comes away very readily in combing, and gives rise to much alarm lest it may be sufficiently extensive to excite remark; this, however, is not usually the case. It is generally, too, a temporary condition. If the hairs are examined they are found to be pretty healthy, except that the bulbs are atrophied and there is nothing in the Alopecia itself characteristic of syphilis, or different from that which is observed from other causes, such as that which occurs after a severe attack of fever. The diagnosis can only be made from the history of the case, and from the simultaneous or subsequent appearance of other and characteristic lesions of syphilis. Of course, we do not include in this description the patchy loss of hair which occasionally results from eruptions (mostly suppurative or tubercular on the scalp, especially in the late stages of syphilis, which is due to destruction of the hair follicles, and is therefore permanent and associated with cicatrices.

however, may be present in connection with the later manifestations, but never in the earlier stages of the disease, unless when the eruption is situated upon hairy parts, or at parts which are habitually in contact with one another, at the anus. Generally speaking, however, itching is absent, and this is a point which is sometimes of the greatest value in the diagnosis of syphilitic from non-syphilitic eruptions, such as eczema and scabies, in which it is usually a very distressing symptom. But it must not be forgotten that a patient may be suffering at one and the same time from a syphilitic eruption and an itchy skin disease such as scabies, and which I have known to lead to errors of diagnosis.

7. Syphilitic eruptions have a great tendency to assume the *circular form*, or to appear in the shape of segments of circles when the healing process has commenced. This character, however, is not peculiar to them, but is shared in by other diseases especially by psoriasis, vegetable parasitic, and strumous affection^s, and must not therefore be trusted to alone.

8. The characters of the *scales, crusts, and ulcers* sometimes afford assistance in the diagnosis. The scales are usually thin, adherent, and greyish, although they are occasionally silvery like those of non-syphilitic psoriasis, and this may be a source of confusion. The crusts when typical are thick, rough, very adherent, and have a greenish color, while the ulcers are round, with perpendicular edges, and ash-grey bases, and the skin around has usually a coppery tint.

9. *The cicatrices* are sometimes characteristic, for when they are round and have a coppery edge they may assume to be the result of a bygone syphilitic ulceration, unless perhaps when they are situated upon the legs, where the coppery tint is sometimes simulated.

10. *An examination of internal organs* may afford important information. Amyloid disease of the kidneys, liver, spleen, blood-vessels of the stomach, bowels, etc., is usually the result of some wasting disease, of some long-continued suppuration, or of syphilis; and in the absence of the two first causes, a syphilitic taint may be shrewdly suspected. It is in the later stages of syphilis, however, that this complication is apt to ensue.

11. Finally a course of *anti-syphilitic treatment* may generally be relied upon in doubtful cases to clear up the diagnosis, a

syphilitic eruption speedily improving, while a non-syphilitic one is generally either not affected or aggravated thereby.

Having thus dwelt at some length upon the general diagnosis of syphilitic eruptions, it will be unnecessary to enter so fully upon the individual forms, and the remarks which have just been made.

I. Secondary Eruptions (the early manifestation of syphilis).

These generally begin to make their appearance from a month to six weeks after the development of the chancre, and, at the outset, are often accompanied by some disturbance of the system, and febrile symptoms, especially if the manifestations appear rapidly and in abundance, but the fever soon subsides, although the patient has an appearance of ill-health, and the skin assumes a dirty earthy tint which becomes more marked the longer the poison has been in the system (cachexia syphilitica).

I. EXANTHEMATOUS SYPHILIDES.

A. *Roseola Syphilitica.*

This is the earliest and most constant of syphilitic eruptions appearing usually about six weeks after the development of the chancre. It is very apt to be overlooked, but is not invariably present, as some have asserted. It is oftenest met with on the insides of the limbs, as well as upon the palms and soles, but is rarely observed upon the face and neck.

It consists of oval, rounded or irregular blotches, varying in size from a pea to a shilling, which may in the early stage be very slightly elevated, and unattended by either heat or itching. At first they have a rosy or a dusky-red tint, the color disappearing on pressure; but later they may assume somewhat of a coppery appearance, and may leave behind for some time brownish or yellowish pigmentary stains which of course do not disappear on pressure. This eruption gives to the skin a peculiar mottled appearance, and, if slight, is very apt to be overlooked unless the body be regarded from different points of view. It may appear gradually and without reaction, or suddenly and with fever, sometimes as the result of an exciting cause, such as taking a hot bath or a bout of drinking. Its duration varies from two or three weeks to two or three months, but once it has gone it has no tendency to reappear.

It is almost always associated with other syphilitic lesions, such as

an indurated cicatrix at the site of the chancre, superficial ulceration of the fauces and of the angles of the mouth, nocturnal pains in the joints, enlargement of the glands at the back of the neck, alopecia, or one or more of the other secondary eruptions about to be mentioned.

It somewhat resembles the eruption of *typhus*, but the latter is of short duration, is more dusky in tint from the first, after a day or two does not entirely disappear on pressure, and commences from the fourth to the seventh day after the appearance of the constitutional symptoms, which are so pronounced as to be quite sufficient of themselves to prevent error.

It may be distinguished from *morbilli* (*measles*) by the following circumstances:—The eruption in measles appears on the fourth day on the temples and nape of the neck, whence it spreads forwards to the face and down the body, appearing last on the lower extremities; it is more papular in character, crescentic in outline, of a brighter tint, and begins to fade in four or five days. It is also accompanied by catarrh of the eyes and respiratory tract, while there is an absence of other signs of syphilis and no history of contagion.

The *roseola* sometimes resulting from the administration of *copaiba* may be known from its usually occurring in persons who are laboring under gonorrhœa and who have been taking that medicine, from its commencing usually about the wrists and being common on the face, from its being very itchy, and soon subsiding after the removal of the cause, and from the absence of other signs of syphilis unless as a coincidence.

B. *Erythema syphiliticum* differs from *roseola syphilitica* in that the patches are larger and less numerous, and, though they may commence about the same time, they often remain long after it has disappeared. They may also reappear even years after the entrance of the poison into the system, which *roseola* never does.

Simple erythema should not be confounded with it, for the former often appears upon the face, the patches are lighter in color, less stationary, less chronic, and accompanied by itching or heat, and without a history of syphilis or the presence of other syphilitic manifestations.

II. PAPULAR SYPHILIDES (LICHEN SYPHILITICUS).

This is an early and frequent secondary eruption, though not so constantly present as roseola. It rarely appears suddenly and with fever, but frequently in successive crops, so that the papules are often seen in different stages of their development. It may appear on any part of the body, but oftenest on the neck, back and sides, and it is not uncommon on the palms and soles. The papules may be of small size, from that of a millet-seed to a split pea, and considerably elevated, but sometimes instead of, or mixed with these, large papules from the size of a four penny to a six penny piece are observed (papulo-tubercular eruption—the syphilide papuleuse plate of the French). The eruption, which is not itchy, has at first a rosy tint and disappears on pressure, but later it is apt to become coppery in tint and to leave pigmentary stains behind it. In the second stage desquamation occurs at the summit of the papule, and the partially detached epidermis thus forms a narrow white fringe around the edge of each.

Sometimes the papules suppurate at their summits (lichen syphiliticus pustulosus—acne syphilitica), and the pus dries into brownish crusts, which leave, on falling, coppery stains, or even minute ulcers followed by slight depressed cicatrices.

The eruption may be scanty, and the papules scattered (lichen syphiliticus disseminatus), or very abundant and closed packed (L. S. confertus), or in clusters (L. S. corymbosus), or forming circles or segments of circles (L. S. annulatus).

The papular syphilides may last from several weeks to several months, especially if they appear in successive crops, and no appropriate treatment be adopted. When the soles and palms are attacked, owing to the thickness of the cuticle, the papules are not well developed, but the epidermis over them is apt to become hard and horny; finally the cuticle exfoliates, and round coppery stains are left. Occasionally too they become confluent, and complicated with fissures (syphilide cornée of Biett).

Ordinary lichen (eczema lichenoïdes) cannot readily be mistaken for a papular syphilide, seeing that it is intensely itchy, has no tendency to assume a coppery tint, and is unaccompanied by other manifestations of syphilis.

Syphilitic acne might possibly be mistaken for ordinary acne

(*acne vulgaris*), but the latter is a much more chronic affection, often lasting for years, has a special tendency to commence at puberty, if not so coppery in tint, and is generally located on the face, shoulders, and upper part of the front of the chest, while the seats of the predilection of syphilitic acne are the extremities and head. In the former also there is the absence of a syphilitic history, or of any concomitant syphilitic lesions.

III. CONDYLOMATA (MUCOUS PATCHES)

constitute one of the earliest and most frequent of the earlier manifestations, though they sometimes persist for months after the others have disappeared. Their seats of predilection are:—

1. On the mucous membranes of the genital organs and mouth, being especially frequent on the fauces where they are often symmetrical and kidney-shaped, on the insides of the lips, and on the sides of the tongue.

2. At the junction of the skin and mucous membrane, especially at the anus, at the margins of the labiæ, at the angles of the mouth, and at the edges of the nostrils.

3. Where folds of skin are in contact with one another, being favored by the heat, moisture and friction to which these parts are subjected, as at the umbilicus, in the axillæ, beneath the mammæ, between the toes, etc. At these parts they are specially liable to occur if there be not great attention to cleanliness.

The eruption consists of soft tubercles from the size of a pea to that of a very small marble. Their edges are distinctly circumscribed; sometimes they are the color of the skin, sometimes of a reddish tint; and their summits are rounded, except where opposed tubercles are pressing against one another, when they become flattened on the top. Sometimes they are isolated; at other times they occur in groups. At first they are dry, but soon their summits have a tendency to become excoriated, exuding a nauseous whitish fluid loaded with macerated epithelial cells; often they are the seat of fissures, especially at the anus, and at the angles of the mouth; and less frequently they become ulcerated. On the mucous membrane of the mouth they are very flat, indeed are often hardly elevated at all, and have generally more or less the appearance of superficial ulcers which have been gently touched with caustic.

Mucous patches differ from the syphilitic eruptions hitherto considered, in that they are decidedly contagious in virtue of the exudation above referred to, that itching is a frequent symptom, and that they do not display the coppery tint.

Condylomata must not be mistaken for *warty excrescences*, which, though common in syphilitic subjects, and often occurring as a complication of mucous patches, have nothing specific about them, and are apt to result from the irritation of decomposing secretions, no matter what these secretions may be. They may be sessile or pedunculated, have a warty appearance, and may occur in isolated spots or in closely set masses like the head of a cauliflower thence the term cauliflower excrescences, often applied to them); they are not influenced, like condylomata, by anti-syphilitic treatment, and are often cured by mere attention to cleanliness and keeping the parts separate.

IV. SQUAMOUS SYPHILIDES.

To these the term psoriasis syphilitica is often applied, especially when the eruption resembles ordinary non-syphilitic psoriasis, but they must be regarded rather as the second, scaly stage of various syphilitic affections than as independent eruptions. This is especially true of the papular syphilides, which often become scaly, and assume a psoriasis-like character, especially on the palms and soles, constituting the so-called psoriasis palmaris or plantaris syphilitica. A tubercular syphilitic eruption, too, often becomes scaly and psoriasis-like, and as this is a late manifestation of syphilis, it follows that the squamous syphilides, though usually secondary, are occasionally a tertiary manifestation. In any case the patches of psoriasis syphilitica are usually round, or occur in circles or segments of circles, generally of small size and not very numerous; the scales are usually scanty, thin, and greyish, and rest upon a deep brown or coppery surface, which, as a rule, is dry, but is occasionally here and there the seat of ulcers, which may be covered with crusts.

DIAGNOSIS OF SYPHILITIC FROM NON SYPHILITIC PSORIASIS.

SYPHILITIC PSORIASIS.

NON-SYPHILITIC PSORIASIS.

1. Eruption *not usually* extensive.

2. Patches usually very small, and in shape of spots (size of a split pea) or of small circles or segments of circles (seldom more than an inch in diameter).

3. Elbows and knees usually escape; more on inner than outer aspect of limbs; when limited to soles or palms, most frequently syphilitic.

4. When chronic, eruption usually of a very distinctly coppery tint, sometimes very dark, even nearly black (Psoriasis Nigricans).

5. Scales scanty, thin and greyish.

6. Itching usually absent.

7. May last months, or even more than a year, when no treatment employed.

8. Relapses rare after *all trace* of the eruption has *completely* disappeared.

9. Rarely commences before puberty, and usually after the age of twenty.

10. Can often be traced to infection.

11. Patient often cachectic, and concomitant symptoms detected, *e. g.*, Roseola Syphilitica, Lichen Syphiliticus, Condylomata, Sore Throat, Alopecia, etc.

12. Removed by anti-syphilitic treatment.

1. Eruption sometimes very extensive.

2. Patches often very large and irregular; when circular, circles often several inches in diameter.

3. Any part of the surface may be attacked, but almost invariably the elbows or knees or head involved.

4. Patches of a dusky-red or light brownish color, as a rule though may be coppery.

5. Scales thick, imbricated, white, and more silvery.

6. Sometimes not itchy, sometimes intolerably so; generally slightly itchy now and then.

7. Often of many years' duration, or even lasts on and off for a whole lifetime.

8. Relapses the rule, and often very numerous, especially in spring and autumn.

9. Many cases commence long before puberty.

10. Is often hereditarily transmitted.

11. Patient generally has a very healthy appearance, and no special concomitant symptoms.

12. Removed by treatment applicable to ordinary Psoriasis, and not benefited by anti-syphilitic treatment.

V. VESICULAR SYPHILIDES.

When these occur, and they are rare, they appear generally within three or four months of infection. Usually the vesicles are isolated and some of them may be umbilicated; they are of considerable size, and may resemble those of chicken-pox (hence the term varicella syphilitica), but they differ from it in that the eruption may last for weeks owing to successive crops, that they are more

certainly situated upon an elevated base, are surrounded by coppery areolæ, terminate in small greenish scales, and leave coppery stains.

More rarely the vesicles are very minute, and closely act together like those of vesicular eczema (hence the term *eczema syphiliticum*). but the vesicles do not rupture so readily as those of eczema, are seated on a coppery base, and the secretion dries up into greenish crusts, which, when they fall, leave behind coppery stains; ulcers, too, are much more commonly met with on the patches.—*Medical Times and Gazette*.

LITHOTOMY AND CIRCUMCISION AT ONE SITTING.

X, applied at my office with a complete phymosis, the preputial orifice being just large enough to admit the tip of a bulbous probe. He had a congenital redundant prepuce, and repeated inflammations had almost completely closed its meatus.

The patient desired relief from the preputial stricture, for what was to me, a unique trouble, viz. : A calculus had escaped from the bladder, and passing through the urethra had lodged in the now nearly complete preputial sac. The stone could be easily felt through the prepuce, and often the force of the current of urine would drive it against the orifice completely closing it. X, was therefore, obliged to use a darning needle to keep the way open, and so micturition with him was quite a difficult and slow process.

Complete circumcision was performed at one sitting and the patient at once relieved.


The New York *Medical Journal* comes to us as a weekly, and is handsomely printed on the very best paper. We regretted to see this Journal changed from its unequalled position as a monthly, but judging by the first number, we will enjoy it none the less, for in fact the change seems to have brought with it new editorial vigor.

EDITORIAL.

NORTH CAROLINA MEDICAL JOURNAL.

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DE JARNETTE'S RELEASE FROM THE INSANE ASYLUM.

It is not to be expected that the non-professional public will be able to follow the logic of events as connected with the notorious trial of De Jarnette for the murder of his sister, and his commitment to the Raleigh insane asylum on the ground of insanity, and his final release after restoration to reason. But the public does, and of right ought, to inquire more particularly into this method of dealing with insane criminals.

In this case, for instance, a brother murders his sister, for a cause, which aside from the evidence, appears to be the sting of his sister's disgrace. Nothing seemed clearer than that it was a premeditated murder, properly punishable with the extreme penalty of the law. Another feature is developed. Examination reveals that the murderer was insane at the time the cruel act was done. Expert evidence was introduced satisfying the court and the jury as to the verity of the plea of insanity. The prisoner is committed to the

asylum, on the equal relations, as far as we know, with the non-criminal insane, and is released from custody in less than two years. He is not only released without any further penalty of the law, but is allowed to go out and intermingle with the world without restrictions.

We have no issue to make as to the scientific diagnosis of Dr. Grissom as regards the insanity of the person, for it is presumed that he made a careful and conscientious study of it in all its bearing, but there is abundant room to protest against a law that makes it possible for the escape of even an insane criminal. Such imperfections of the law, only make it possible for what we recognize as high science, (because we have none better) to come in and shield a dangerous criminal, allowing him to pass from the prisoner's dock through the asylum as a place of purgatory, and thence into the world, rehabilitated with the privileges of former citizenship.

We have no doubt that the enquiries occurred to a very large number of thinking people—Is it safe to give freedom to an insane murderer in such circumstances? Must we place unbounded confidence in a science which yesterday screens a palpable criminal from the law on the ground of insanity, and to-day declares him a fit person to go abroad a free man? Is there not room for great distrust in a science which interposes its convenient shield?

Moreover, in the interest of peace and personal protection, should not such a person be kept under personal surveillance, and denied the rights of citizenship?

We understand quite well that it sometimes costs the specialist hard study and moral courage to come into court with his evidence, but so far we must confess, that in the light of recent public exhibitions, in which the scientific opinions of expert alienists has been so conspicuous, that their scientific knowledge in its present state, assuming that what we have read in recent notorious cases is the best of it, is entirely too crude, unsubstantial, and contradictory, to form a basis of legal action.

VACCINE AND VARIOLA.*

By Dr. LEONHARD VOIGT, Superintendent of Vaccination at
Hamburg.

The practitioner who has at his command material eminently adapted for scientific research, material which in importance and fulness can hardly be matched anywhere, should make it his first duty to render it accessible to the profession at large. This is my excuse for presenting the following work, though well aware, that in matters of vaccination especially, "in writing foolish books there is no end." I am the more strongly induced to do so because of late the call for confirmation or rectification of views accepted until lately, has become stronger on account of new experiments, and because I believe I am able to contribute, in some degree, to the elucidation of many contradictory views:

I. VARIOLA-VACCINE.

The question of the origin of vaccine, considered in the nature of the relations between variola and vaccine, is as old as the use of protective inoculation, but it remains yet to be solved. Even the communications of Tschamer who attributed the causes of variola and vaccine to *Penicillium olivaceum*, a fungus found upon pine leaves, do not settle the question, even if his theory were confirmed. From Jenner's theory that cow-pox originated in horse-pox, the more comprehensive theory was further evolved, that variola as well as the pox of other animals had all one common origin. So that cow-pox and horse-pox were supposed to be the specific representatives of a variola modified by the peculiar nature of these animals. In other words, that vaccine is nothing more than the variola virus transformed in the body of the animal.

In opposition to this theory, lately maintained by Bollinger, some French savants, and in England of late, Fleming maintain the view that though variola and vaccine are related to one another, still they cannot pass one into the other, and that vaccine cannot be produced by variola.

I must mention, among others, the Report of the Commission

*Translated by H. Tallichet, LL.D., Professor (elect) of Modern Languages of the University of Texas.

appointed to investigate this question in Lyons (*Vaccine et Variole par M. Chauveau, etc., Paris, 1865*). This commission provided with such rich material and competent investigators, that a definitive result was to be expected, reached indeed conclusions which left nothing to be desired in so far as clearness is concerned, conclusions which in practice would amount to the fact: that it were useless to attempt the production of animal vaccine from variola humana. But in this report, however lasting and important it may be for science, there is a great mistake, a result of the ignorance of the thoroughness and worth of former experiments in the same direction. The report declares as inaccurately observed the positive results of those investigators, who undoubtedly succeeded in propagating vaccine from variola. It is not every description of such propagation that will bear scrutiny, but some will bear the light of the most searching criticism. Thus the assertions of Thiele at Kasan, lack necessary clearness on the certainty of his success in obtaining variola vaccine; but the statements of Ceely, Reiter, Badcock, Senft, will bear the closest investigation.

The variola-vaccine, produced in 1839 by Ceely was extensively propagated. It was carried from England to Harover and the physician Schneeman from that place, remarks somewhat disapprovingly about a year afterward, that the virus obtained from it offers no advantages, and presents no differences from the common humanized lymph. Thus giving Ceely's variola-vaccine the very best testimony; it had become true vaccine.

So then the production of vaccine virus from variola virus is, under certain conditions, possible, but it succeeds seldom, and we are still ignorant of the laws according to which this change either takes place or does not.

We know, as the above mentioned report of the Lyons Commission has established it, that in most cases the variola humana inoculated to horses and cows does not produce true vaccine, and that the virus produced by this inoculation when reinoculated on the human subjects, may occasionally return to varioloid.

We know further that such variola equina or bovina is not generally transmitted in a lasting manner, even when the virus is carefully inoculated from one animal to the other.

On the other side we find in the literature of the subject several

descriptions of epizootics, which we must almost undoubtedly consider as the small-pox of animals, because the inoculation of the virus from the pustules of these animals occasionally caused severe cases of variola.

From this we have three forms of small-pox in cattle :

1. That epizootic, which although not yet produced experimentally, has been repeatedly observed and described; which may be communicated from animal to animal and must be held as variola because it produces variola in man.

2. The variola inoculated to cattle, which does not become vaccine, dies out in the second or third generation and maintains at first the character of variola.

3. The variola-vaccine, which may be propagated and becomes vaccine.

The investigation of the virus of the first form, in epizootics seems of lesser importance for practice, and it may not only be difficult but also quite a serious matter to originate purposely such an epizootic.

The variola equina and bovina of the second form is thus far not a subject of controversy, and I shall revert to it hereafter.

The question of variola-vaccine is the subject of discussion, and whether cow-pox is dependent or not upon variola humana. Indeed the contention of the different theorists is so violent that in the summer of 1880 a meeting of the Academie de Médecine, in Paris, was adjourned by the President on account of the violence of the debates upon this question.

If we consider closer the question of the origin of cow-pox we may admit as settled, that cattle have not the property of propagating from year to year the virus (contagium), for vaccine is propagated with much greater difficulty among cattle than among men, and humanized vaccine has never yet spread spontaneously or without procataretic cause. So that without objective favorable causes among cattle, cow-pox which is still found occasionally, would, long ago, have ceased to exist.

Therefore, we must come to the conclusion that vaccine originates in an infecting material (virus) which is propagated independently of the cattle, which comes on them different ways, and infects them with different degrees of intensity according to the higher or lower potential form with which they are attacked.

In the infection of cattle with the virus of *variola humana* we look for a cause for vaccine, and for a very powerful one.

It would be of great importance for the practice if this very infection, if this mode of breeding (?) of vaccine from variola were thoroughly investigated. Then on the breaking out of an epidemic of small-pox at a place not provided with vaccine, this want could be immediately remedied by procuring out of the small-pox lymph itself, on cattle everywhere to be found, the proper agent for protection. If we consider, for example, that in Spanish America there is a constant need of such an agent, that in the East even to this day direct inoculation is still flourishing, we cannot but desire that the question : How is good vaccine to be generated ? should be settled as promptly as possible.

Thinking I am better acquainted with animal vaccine than many other physicians, I have recently attempted this question when occasional cases of small-pox occurred in Hamburg, and have had the good fortune of producing variola-vaccine. Such experiments are expensive and take time besides being a work of great responsibility, yet my labors were rendered easy, as I had at my disposal the stable and overseer of the vaccine establishment. I was granted the privilege of disposing of a few extra animals for this object and found ready support on the part of my colleagues in the establishment and in the general hospital, in observing the effect of the new inoculated matter upon human subjects, under the control of the hospital physicians.

I made use of the calves which were sent from the cattle market to the vaccine establishment. They were from three to four months old, and probably, on account of their age, free from previous vaccine-invasion. I selected the best fed subjects, made no selection as to sex or color, and fed them with 10 litres of milk daily. I could not and would not follow in everything, the directions given by Thiele for the production of variola-vaccine, because I hold them to be too comprehensive. Thiele, for example, prescribes that a cow should be taken from four to six years old, fresh in milk, of a light color, that she should be inoculated behind the udder on a shaved spot, with an incision not too shallow; with that he directs that clean variola lymph should be taken out of pustules having still a pearly color and thin; if the animals were kept at a tempera-

ture of 15° C., it would be expected that every third lancet puncture would produce a pustule. The contrast between these statements and those of the results obtained by other investigators is, as can be seen, enormous. Thiele's account is, however, so short, he goes so little into the details of what was actually observed, that his statements lose considerably of their weight. Thiele has evidently made no observations upon the property of transmission of pox efflorescence from cow to cow, or he must have noticed, and assuredly mentioned how important the difference is between the strikingly great power of transmission of the fully developed pustule of variola-vaccine and the feeble power of the more undeveloped pimples.

Had Thiele directed his attention upon this point, the contrast between his assertions and those of later observers, of Chauveau, for example, could scarcely have been so great, for Chauveau maintains the production of vaccine out of variola, as simply impossible.

Besides the observations of Chauveau and his associates, other investigators have been satisfied with carrying over immediately the variola-vaccine produced experimentally, to the human subject.

There is nowhere the question of more extensive breeding from calf to calf or from cow to cow.

The only one, who so far as I know, witnessed the change of variola-vaccine produced by intentional inoculation, into cow-pox, is Reiter (*Jahrb. des ärztlichen Vereins in München*, III, Vol) who made, following exactly the directions of Thiele, a new attempt in the transfer of variola upon cows, after having failed during the ten preceeding years, in fifty different experiments. He raised a pustule with the contents of which he inoculated a child. Accordingly he saw on the tenth day, fever arise, and on the twelfth the suspicious symptoms of varioloid, that is to say, fifteen discrete pustules, so that he desisted from further use of this lymph. But in the cow stable, in which the above mentioned cows were kept, Reiter observed after three weeks, true cow-pox, which transferred to the human subject acted like vaccine and could be inoculated again and again. So that Reiter's variola-vaccine had become animal vaccine within four generations at the outside.

This experiment gave me a hint as to the application of variola-vaccine in general. It is evidently a serious matter to use it in the first generation, for, as in the Eastern inoculation, varioloid might

be produced. It is more proper to train it first through a few cows, in order to have vaccine suitable for practice. The germs of variola humana, intensely active and endued with great tenacity of life, form, when impregnated in the tissues of living cattle, pustules somewhat similar to those of small-pox. Therefore, I should not be astonished if the lymph of such pustules should still contain, after five or six days, unchanged germs of variola, germs which, later on, after repeated passages through animals, would assume a milder form and become modified.

I will now revert to the experiments of the Lyons Commission, with which the following description of my three unsuccessful experiments in obtaining vaccine, fully agree, experiments which I have undertaken to control the previous inoculation of another calf which was immediately followed by success.

Experiment I.—On May 11th, a white and black bull calf, weighing 254 pounds is inoculated with varioloid lymph at the scrotum with (flat) superficial incisions. The lymph had been obtained two days before, and filled in tubes from the varioloid pustules (on a woman 35 years old, vaccinated when a child,) on the sixth day after the first appearance of the small-pox eruption.

Temperature at time of inoculation, 39.5.

After.	Morning.	Evening.	
1×24 hours	39.4	39.6	
2×24 “	39.6	39.4	Appetite lessened.
3×24 “	39.5	39.6	Flatulence, stool greenish, i. e., bowel symptoms usual after the vaccination of calves. The incisions but little inflamed, somewhat prominent, seem nearly all tending to the formation of pustules.
4×24 “	39.4	39.3	Some places abort, others enlarge and look very promising. Nearest the scrotum upon the shaved parts, small papulæ with yellowish centre, develop on the opposite side of the incisions.
5×24 “	39.5	39.6	Flatulence ceased, every thing seems to abort.

After.	Morning.	Evening.	
6×24 hours	39.3	39.2	Upon the inoculated spot and the neighborhood of the scrotum the papulæ have become small globular pimples, with amber colored scab and a somewhat reddish rim.
7×24 "	39.4	39.3	
8×24 "	39.2	39.1	Two small new papulæ have formed on the abdomen, which from their position may have originated from two pimples on the scrotum by direct contact through penetration of the lymph into the skin.
9×24 "	39.3	39.2	The calf weighs 258 pounds, an increase of four pounds.
10×24 "	39.2	39.4	The last two papulæ have also become small pimples. The other pimples have not enlarged, but have become drier and darker.
11×24 "	39.3	39.2	
12×24 "	39.4		The scabs have mostly fallen off. The calf is sent away.

Experiment II.—A handsome black and white male calf, ten weeks old, had remained one day in the stable and was fully rested from transportation, weighed 166 pounds at the time of inoculation. The lymph had been obtained from a case of confluent variola. It was perfectly limpid and had lain for one day between glass plates sealed with paraffine; a second charge was drawn one day later into a tube as the pox was already getting hemorrhagic. The second charge was already somewhat yellow, turbid and a little bloody and was used almost immediately.

The first charge (I) was applied in 27 flat (shallow) incisions on the perineum, behind the scrotum; in the second charge (II) in 21 incisions on the scrotum.

Temperature on day of inoculation 39.5.

After.	Morning.	Evening.	
1×24 hours	39.5	39.4	The lymph of I seems to be active, that of II not.

After.		Morning.	Evening.	
2×24 hours		39.6	39.8	The animal is affected, but presents otherwise no striking symptoms.
3×24	"	39.5	39.7	The calf is more active, there is some reaction at the scrotum. Diarrhœa.
4×24	"	39.4	39.5	The incisions of I prove a beginning of papulæ, which have little elevation and are of small capacity. At the scrotum the reaction is greater.
5×24	"	39.5	39.4	Diarrhœa subsided. The inoculation incisions at the scrotum have become reddish pimples which bear upon higher and somewhat papulous centre a scab about 3 mm. broad.
6×24	"	39.3	39.4	Neither inoculated surfaces have produced any pustules; the pimples discharge, with blood, abundant viscid serum, when squeezed with pincers.
7×24	"	39.4	39.3	The pimples get drier.
8×24	"	39.2	39.4	Everything disappears from the inoculated surface on the perinæum, and two days later this surface shows nothing but small, sharp little crusts. But on the scrotum the pimples extend over the reddish ground, and in their neighborhood other small pimples are formed, full of matter, which contained, as the sequel proved, an entirely inactive matter.
9×24	"	39.5	39.3	
10×24	"	39.4	39.2	The pimples on the scrotum and neighborhood still increasing, and are moist.
11×24	"	39.4	39.3	

After.	Morning.	Evening.	
12×24 hours	39.3	39.2	They become dry scabs.
13×24 “	39.4		These scabs become loose and must fall within two or three days.
			The calf is sent away with an increase in weight of 6 pounds.

Here very powerful variola produced no vaccine in the calf, but on the sixth day after inoculation, the calf was already protected against vaccine, for it was on that day inoculated with especially active calf's lymph without result, with a lymph which applied at the same time upon another calf succeeded splendidly in the latter case.

With fresh lymph taken on the sixth day from the juicy pimples of this animal I inoculated immediately another calf with 32 incisions and puncture.

Experiment III—After three days the inoculation seems inactive. After six days everything dries up without results, but on the seventh day, the inoculated surfaces grow more elevated and succulent, to dry up on the following day. The insignificant looking scabs are allowed to fall on the fourteenth day.

This very same calf was on the day after inoculation, also inoculated with the lymph of the first generation of mature variola and vaccine. Seven incisions were loaded in the contents of a tube filled one month before; from this seven fine pustules formed, and with the contents of these pustules a child was vaccinated (see below). No fever was observed in this calf either, the temperature reached on the third day only 39.6, and the general symptoms were very similar to those of its mates.

From the above is seen that I observed exactly the same thing as Chauveau. The animals with moderate bowel symptoms show no important febrile signs, and from the second day a trifling reaction inducing the slow formation of little pimples. The pimples increase in size, infect somewhat their surroundings by contact, and form scabs from the 12th to the 17th day. There is no where to be found any further eruption either on the hairy or on the bare surfaces.

Chauveau considers this process as true variola bovina, and the

same follows indeed generally the inoculation of the cow. I hold this form as abortive, as compared with true variola-vaccine. The pimples are similar to those of abortive forms which are met with among cattle who have taken cold or with re-vaccinated human subjects. If we were to attempt the further inoculation from papulæ and pimples produced by re-vaccination, we would certainly observe a feeble result on the human subject. But with cattle which possess so little sensibility to pox virus, only the lymph taken from perfect pustules takes well. Therefore we cannot expect true vital energy to result from the contents of such pimples. These pimples must also form a scab earlier than the variola-vaccine pustules, for all vaccinal abortive forms run a more rapid course than the normal.

Lastly, I do not regard it as a criterion of these special forms, that they should, as Chauveau insists, possess the property to give back variola to the human subject, under certain conditions for even the use of true variola-vaccine in the first generation (see Reiter above) is not without danger.

So then the pimples are abortive forms. I will now describe the production of variola-vaccine.

If variola and vaccine are inoculated simultaneously upon the same subject, the two germs of infection do not disturb one another, they both develop according to their kind. This is a fact generally recognized and also by Chauveau (*Chauveau Vaccine et Variole*, p. 65). Therefore, I could use for the inoculation of variola a calf that was serving for the production of animal vaccine for the public, if I only chose for the place of application of the new virus, one sufficiently distant to avoid with certainty the mixing of the two kinds of lymph. The result justified my proceeding, for our old vaccine continued to succeed well, alongside of the variola-vaccine pustules which were developing.

It might be indeed objected to, that in such experiment the proof is not conclusive that vaccine may be produced from variola, that perhaps vaccine has penetrated into the surface of insertion of variola, and that we have simply to deal with a mixed form. But, besides that, I have neglected nothing to prevent every mixture; if there had been such a mixture, that could have produced only, either variola bovina or vaccine, or both simultaneously and side by

side. But here there were formed neither the pimple, which is taken for variola bovina by the supporters of the duality of both infective matters, nor ordinary animal vaccine, but a pustule with very active lymph which was weakened gradually into common animal vaccine and with the properties of original animal vaccine and with the properties of original cow-pox, exactly as it was described by Cee y and other investigators.

I succeeded immediately in the first experiment, but only in this one; the subsequent experiments produced nothing but abortive forms, as I have already described.

I obtained on the 27th of April, from about eight pustules, which were already looking somewhat turbid, a capillary tube full of good, and somewhat yellowish lymph, from a workman 25 years old who had been vaccinated when a child and had three inoculation scars, and had been seized on the 23d of April, 1881, with a discrete eruption of varioloid. I transferred these about twenty hours later, on April 28th to a female calf on the left side of her hypogastrium, which had been shaved shortly before, by means of five flat, scratched, incisions.

In this, I proceeded in the following manner: I blew the whole contents of the tube, a pretty large drop of lymph upon one spot of the inoculating surface and with that drop I moistened the lancet, which I applied at first to the other incisions; at last I scarified the surface upon which the lymph had been blown, and it was at this very spot that the variola-vaccine originated.

This calf was immediately inoculated with animal lymph that had been collected 6×24 hours before, on a sufficiently distant part of the body, which inoculation, just because it had not been performed with lymph of the fifth day, did not produce brilliant results, but still gave rise to pustules, the contents of which inoculated later to children, gave a good result. Therefore it cannot be said, that here the vaccine had been influenced by the variola. The calf had already been two days in the stable had fully rested from transportation and at the time of inoculation had the normal temperature of 39.2 Its skin was tender and became red by shaving.

After. Morning. Evening.

1×24 hours	39.6	39.8	Both vaccine and variola seem to thrive.
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After.	Morning.	Evening.	
2×24 hours	39.2	39.3	Stool, as customary after vaccination, somewhat thin.
3×24 "	39.3	39.4	Stool mushy. Appetite good.
4×24 "	39.3	39.2	The same. Vaccine acts mildly. Variola still very young.
5 24 "	39.2	39.2	Stool better. Appetite good. Of the vaccine applied the greater part has aborted, but yet many good pustules have formed. Of the five places inoculated with variola, four can hardly be recognized, the reaction has altogether come to naught. The fifth spot bears a flat pustule without umbilication, 4 mm. in size, round and yellowish-white.
6 24 hours	39.2	39.3	This pustule is now six millimetres, pearly, with hardly any redness on the edge. A little depressed in the centre, it is somewhat smaller but exactly of the color of the pustule described by Ceely, table 10. With the lymph of this pustule another calf is inoculated, and the pustule cut out for microscopic investigation.
7 24 "	39.1	39.2	The successful vaccine pustules are in part already purulent. The calf seems to be doing well, has a good appetite and regular digestion.
8 24 "	39.2	39.1	The calf remains healthy.
9 24 "	39.1		The vaccine pustules have scabbed. Between them are little pimples covered with scabs.

After.	Morning.	Evening.	
			Similar small pimples, and scabs but much closer together, and almost herpetically confluent, are in the neighborhood of the variola-vaccine pustule.
			All these forms have been, evidently produced by the influence of the vaccine upon the skin irritated by shaving, and also somewhat excoriated. Besides there are also a few fresh papulæ between the vaccine scabs, produced by self-inoculation, from the ripe vaccine pustules, as the matter was taken from it where the pressure of the pincers had somewhat loosened the epidermis.
10×24 hours	39.2	39.1	These papulæ are also covered with scabs.
11×24 “	39.0	39.1	At no place distant from the inoculating surface are there any traces of secondary exanthema. The vaccine scab became loose. The surface previously occupied by the variola-vaccine pustule is covered with a black scurf.
12×24 “	39.1	39.2	The calf is sent away in good condition.

FURTHER BREEDING OF VARIOLA-VACCINE.

Second Generation.—As I reinoculated on the sixth day the scant lymph taken from the inconsiderable pustule produced by inoculation, I was in the highest degree of expectation, to see how it would operate.

The lymph, and that one alone, was used fresh and by means of

six flat incisions, in front, behind and on the scrotum of a bull calf about three months old. Temperature on day of inoculation 39.4.

After.		Morning.	Evening.	
1×24 hours		39.3	39.3	The animal has somewhat more diarrhœa than the one from which the virus was taken.
2×24	“	39.4	39.5	Diarrhœa watery.
3×24	“	39.4	39.6	“ “
4×24	“	39.3	39.5	Reaction at all inoculated spots.
5×24	“	39.4	39.6	Twenty-one pustules all equally well developed, contain somewhat thinner matter than our previous animal lymph. They look like vaccine pustules of the very best quality.
6×24	“	39.5	39.4	The pustules have increased in size, are rather duller in color and contain abundant and clear matter. No accessory pimples, no general exanthema.
7×24	“	39.5	39.6	The pustules resemble vaccine pustules of the fifth day that have quickly matured, are very large and of beautiful pearl white. In the middle they bear a somewhat depressed scab, with this their contents is clear serum, and they are surrounded by sparingly reddish borders.
				The body of the calf is puffed. Some little diarrhœa; begins to decrease on the eighth day.
8×24	“	39.4	39.3	The pustules which are getting more dull in color are still whitish, and still contain limpid matter. The centre scab is getting larger.

After.	Morning.	Evening.	
9 × 24 hours	39.2	39.4	Still some diarrhœa.
10 × 24 "	39.3	39.5	The centre scabs have become harder.
11 × 24 "	39.4	39.3	No secondary exanthema, favorable general health.
12 24 "	39.2	39.4	Near the serotum are to be seen four abortive little pimples evidently caused by over-inoculation in contact; they assume the form which we are wont to see produced after auto-vaccination of children. They are
13 24 "	39.2	39.5	round, raised, somewhat hard, the raised surface covered with flat yellowish scab surrounded
14 24 "	39.4	39.2	by a reddish border, exactly as described by Ceely, (see table 13
15 24 "	39.1	39.2	middle line.
16 24 "	39.3	39.1	The rim of the pustule is getting loose, the middle still holding fast. The scabs are beginning to break and may fall within two days.
17 24 "	39.4	39.3	
18 24 "	39.2	39.3	
19 24 "	39.3	39.5	
20 24 "	39.4	39.2	

The calf presents no secondary symptoms, or further exanthema, and is now given away. Its pustules corresponded exactly to the figures of Ceely in tables 15 to 21; only Ceely's pustules were somewhat smaller and ripened one day later.

I had never yet seen pustules of so large a size upon our calves, and the lymph taken from them struck me on account of its abundance and of its fluidity. Of its energy I was to convince myself by and by in developing the third generation.

Third Generation.—This calf was inoculated with fresh lymph from the pustules of the fifth and sixth day of the former calf, on

two successive days, every incision developed a pustule. This calf, otherwise well-fed arrived during such a violent rain, that it was 24 hours before it was completely dry. Under such circumstances our old vaccine would most probably have entirely or almost entirely failed. The temperature of this calf (at the time of inoculation 39.3) never passed 39.5, and even this was reached only on the 4th, 7th and 8th evening after inoculation. The animal had on the first day an attack of diarrhœa which lasted until the 7th day, maintained a good appetite and weighed before inoculation 140 pounds, and 15 days later 150 pounds.

The pustules produced with the younger lymph that had been applied one day earlier, succeeded better than those originating from the inoculation of the following day. The pustules of the first category became very fine, and after six days produced quite large *centre scabs* which increased gradually in size, still held after 15 days and fell probably on the eighteenth day, that is, four or five days earlier than on the second generation.

The pustules originating from the second inoculation of this calf remained weaker, smaller, with less fluid formed scabs earlier, (most of them on the fourteenth day) leaving a smooth cicatrix with few hairs. This calf also developed on the seventh day a few abortive reddish pimples at spots which admitted of a transmission contact from one of the pustules opposite; but they remained smaller as compared with those of the former calf, on which they also did not make their appearance until five days later.

The above second and third generation was transplanted by myself with fresh lymph from calf to calf; afterwards this lymph stock was kept up immediately, with preserved lymph and with this an almost fabulous activity was observed.

From this calf the *fourth generation* was obtained by means of lymph kept 19 days in tubes somewhat badly closed. Only few good pustules were produced on the fifth day, which grew in size during the following two days. The lymph taken from these was preserved six weeks in order to inoculate another calf.

Fifth Generation.—Two tubes furnished the lymph for 18 incisions, which produced nine pustules, which after 6 by 24 hours contained liquid yet quite limpid. This calf was also inoculated with our old vaccine, from imperfect pustules and with unsatisfactory results.

Sixth Generation.—Lymph of the former calf preserved for two days in a tube succeeded finely in every incision, while very good lymph of the old stock inoculated at the same time fresh from calf to calf succeeded only indifferently.

From this experiment, moreover, I have always raised simultaneously, both sorts of lymph upon the same calves, naturally with the necessary precautions against an intermixture. In this the old vaccine seemed to me, to be gaining in energy and freshness, as though it were excited by the powerful lymph of variola in its neighborhood, which on its side seem to approach, very slowly, it is true, the milder forms of the old stock.

The variola-vaccine pustules of the seventh and eighth generations had dried after 8 by 24 hours; those of the 10th which had, moreover, succeeded admirably, contained in some few pustules which had remained small, lymph still clear after 8 by 24 hours.

From this calf two more stock-fellows were inoculated, the *eleventh generation*; one with fresh lymph of the fifth day, the other, also, with fresh lymph, but of the eighth day. And while on the latter, out of six incisions, only two pustules were formed, the inoculation of the first, with the younger lymph succeeded admirably. So the younger lymph proved to be the stronger. The following five generations produced very good results; the sixteenth generation failed partly on a sickly calf.

Now, in December, having reached the twentieth generation, I can maintain that the difference between the new lymph, and the Beau-gency lymph is entirely obliterated to an inexperienced eye.

Yet the lymph of the new stock develops with more certainty into full numbered, large and lasting pustules, which after 6 by 24 hours contain as yet no purulent matter; differently, then, from the lymph of our old stock, the pustules of which, after or within 6 by 24 hours, become purulent and inactive.

The lymph of the eighth day, of the new stock which at first was still very active, proved, in the eleventh generation, already somewhat uncertain, and in the nineteenth generation the fresh lymph of the seventh day proved a failure.

With this the further separate production of both lymph stocks is of no further interest, yet I will continue it until the introduction of the new lymph as the only matter inoculated at the vaccination establishment.

We are now coming to the results obtained with this lymph upon the human subject.

Because direct germs of variola humana might yet be suspected in the newly formed vaccine pustule formed from the pox lymph, inoculated five days previously on the calf, I held the transmission of the lymph at this first generation, as a dangerous experiment. Therefore, I inoculated only the lymph of the second generation, which, as you recollect, had been produced from the first generation with lymph preserved five weeks in a tube.

As there was no other subject on hand, I selected in the hospital, a yellowish looking child, which had been badly fed, had never been vaccinated, and was threatened by the epidemic of small-pox there; her skin was very sensitive and showed many scratches. From three inoculation incisions were produced on the seventh day, three very young vaccine pustules, of which the contents remained limpid five days, they dried on the twelfth day and healed with suppuration.

Temperature Scale.

					Temperature Scale.		
					Morning.	Noon.	Evening.
On day of inoculation					37.3	37.5	37.5
1	×	24	hours after	"	37.6	37.4	37.5
2	24	"	"	"	37.6	37.3	37.8
3	24	"	"	"	37.8	37.9	38.4
4	24	"	"	"	38.7	38.5	39.3
5	24	"	"	"	39.5	39.6	40.0
6	24	"	"	"	38.4	38.3	38.1
7	24	"	"	"	38.1	38.4	38.5
8	24	"	"	"	37.6	37.9	38.7
9	24	"	"	"	38.5	38.2	38.9
10	24	"	"	"	38.1	38.5	38.6
11	24	"	"	"	38.3	37.8	38.0
12	24	"	"	"	37.8		38.3
13	24	"	"	"	37.4		38.5
14	24	"	"	"	37.0		37.6

Already on the third day, then, before any local reaction on the inoculated surface, an acute eczema had appeared on the left knee, with fever going to 40°. this dried up within three days under a covering of salicyl cotton.

On the ninth day after vaccination axillary bubo on the inoculated arm. From the twelfth to the sixteenth day, six discrete reddish pimples form here and there, one of which became a subcutaneous fluctuating tubercle, which, however, disappeared as well as the other pimples in the course of a few weeks.

The temperature scale shows that the feared pox fever did not make its appearance on the 12th to the 14th day, nor did any variola eruption show itself, yet the six pimples were no common vaccinal symptoms. Therefore, we cannot say that the inoculation was a failure. The child was not especially fitted for the experiment on account of her skin.

After this I inoculated four more children with lymph of the third generation. One of them was vaccinated with lymph which had been preserved seven and seventeen days in a tube with somewhat defective sealing, both times without result.

With the other three, the 17 days old lymph proved effective, and it produced neither secondary fever nor general exanthema.

Frieda M., nine years old, undergoing a vapor bath cure on account of tophi (gravel?). The inoculation incisions give within seven days four pustules, afterwards highly colored areola, painful axillary glands. During this time there is produced on the 3d day after vaccination an angina tonsillaris with a febrile course of three days. From the ninth day after vaccination the child is, and remains free from fever; no further exanthema.

N. V., one year old child with spondylitis. Within seven days nine incisions on the left arm produce eight pustules, besides which 4 more pimples appear. The pustules are rubbed away four days later, purulent. On the 12th day a young* pimple makes its appearance on the left inguinal fissure, which, as it seems, was inoculated there by the finger nail of the subject. This pimple, also secretes abundantly afterward. On the ninth day, diarrhoea begins, temperature rises to 38.8, to fall the following day to 38. On the 14th day there are on the inoculated surfaces gray ulcers, the size of a ten cent piece, which, three days later are the origin of a heavy attack of erysipelas. This passes away with the usual temperature curve.

Friederke H., 1½ years old, scoliatic. Nine incisions produce

*The word "young" which qualifies vesicle pimple, etc., in so many places, means new, fresh, recently-formed.

within seven days eight pustules, which dry up as customary. On the seventh day after vaccination it is attacked by a left side interstitial pneumonia, four days fever with remissions and a subfebrile state of several weeks duration.

The sickness of all three of these inoculated subjects during the development as well as during the ripening of the pustules may be explained by the extraordinary bad weather of those days, which may have been injurious to weakly patients under the influence of vaccine, rendering the children especially sensitive. It warns, however, to great caution in the use of variola-vaccine of the first generation, as of an uncommonly active lymph.

On this account I continued my experiments only at the eighth generation.

A child $1\frac{1}{4}$ year old, with a fracture of the femur pretty well healed, is inoculated in nine incisions with lymph one day old, preserved in a tube. At the usual time two pustules are produced, which heal in a natural manner but the child affected with cold in the head and cough has 4 by 24 hours after vaccination, an attack of measles. With this, two days' fever with remissions, which is followed by a subfebrile state lasting five days. This incident, and especially the rapid disappearance of the eruption gave me the suggestion that I had observed, those secondary phenomena observed so seldom after inoculation, as they are described by Behrendt, *Berl. Klin.*, 1881, p. 679. Lymph taken from the pustules of this child acted very well upon other children, but with nothing extraordinary.

At first variola-vaccine was not especially weakened by keeping in tubes, and on account of its limpidity was easily blown out of the tubes. The lymph of the later generations, however, took more and more the character of animal lymph, it coagulated easily and failed often. With tube lymph of the 13th generation, four days old, I produced from six punctures only one pustule, and in the hands of other physicians the results obtained with it were also often incomplete.

I did not offer this lymph to my colleagues until the ninth generation, and it was readily accepted. None of the gentlemen gave reports of unfavorable secondary symptoms; none observed either secondary fever or general exanthema.

After I had received no suspicious report from any one I inoculated immediately from calf to the human subject, lymph of the 15th generation obtained on the sixth day after inoculation. The effect was brilliant. By the end of the first week, a strong local as well as general reaction had taken place, but no other symptoms were noticed. As several children could not come for inspection on account of the strong reaction on the seventh day, the weather being bad, on later examination I could discover neither secondary fever nor general exanthema between the 10th and 14th day after vaccination. Yet it was not to be denied, that the local process took place with greater intensity, and that the scabs formed slower than ever before observed. I am satisfied that the scabs from many an arm did not fall before the 25th day, looking retrospectively upon the inoculation of calves and upon the application of the new lymph I came to the following conclusions:

Variola humana inoculated upon cattle produced commonly on exanthema in the form of pimples circumscribed on the inoculated surfaces, which passes away without much fever or other serious symptoms; and without general exanthema, which, moreover gives a lymph which is not suitable for reproduction among cattle. These pimples shed their scabs within 14 to 17 days, and represent, it is true, the common, but only the abortive, form of variola bovina.

In rarer cases, but with altogether similar symptoms, a pustule is formed instead of the pimple, the variola vaccine pustule, which requires an interval of three weeks and more for shedding its scabs, and which produces a lymph uncommonly active for reproduction.

It is the progenitor of an especially strong cow-pox and the most perfect form yet intentionally produced of variola bovina. The exanthema of the abortive form, as well as that of variola-vaccine, both contain a lymph which is suspected of harboring germs of variola that may be transmitted to man.

But while the abortive form disappears so quickly that it can hardly be inoculated with safety, the character of variola-vaccine lymph changes in the course of the next generation and assumes the milder serviceable properties of animal vaccine. Differences arise in the energy of individual lymph stocks. *Sacco*, for example, affirms that vaccine acts more mildly in Italy than in England, and *Woodville* in *Reports of a Series of Inoculation of the variola*

vaccine, describes such serious results from his inoculations, that it must be admitted, that his vaccine was variola-vaccine of the first or second generation.

To the question, how the formation of the abortive form may be presented, I can give no satisfactory answer; but can point out three facts :

1. Because cow-pox is generally found during the cooler season and because the cattle have a normal temperature about 2° C. higher than the human subject, the inoculated animals should be kept cool and be inoculated at some unprotected part of the body. (However the intensity with which a subject is affected with small-pox does not depend upon the elevation of the temperature of its body, for the hog which is not easily affected reach 38.8° , the sheep and goats 40° , man 37° , and the easily affected horses 37.6° , the calves 39.1°).

2. I hold very superficial incisions or scratches as the most proper way of transmission, because the superficial layers of the skin contribute most to the formation of pustules.

3. It is certainly important to observe closely and frequently the development of the efflorescence in order not to miss the right moment for obtaining the lymph. During the formation of the abortive forms it looks as if the germs might form pustules, if they were not constantly reabsorbed, so that they cannot act upon the upper layers of the cutis (as if they were growing upon a sieve). After having obtained immediate success in the first of my three inoculations, I thought I had obtained satisfactory results also at the second, when the protuberances which had appeared on the third day became papulæ with yellowish heads. In the hope that a richer pustule would develop, I put off taking the virus to the following day. There was then, nothing more to get; only pimples with non-infectious contents badly developed.

As to the use of cow-pox derived from variola, I advise patience, only the fourth or fifth generation can be altogether safe, moreover, the number of inoculation points should be limited, and not be set too closely.

Here, I believe, I have proved how active cow-pox may be obtained; the further modifications of cow-pox will be considered in the next section.

2. WEAKENING OF ANIMAL VACCINE.

I have intentionally not abridged my description of the inoculation of variola-vaccine from calf to calf, which I continued for months, because to my knowledge no similar observations had been either made or published, and because it throws light upon the variability of vaccine.

The degeneration or weakening of this very important substance, by many accepted as an axiom, by others rejected as mere fancy, has been much talked about since the earliest time of its use; yet only the few have had the time, the endurance and the opportunity of forming an independent opinion on the subject.

Some maintain that humanized vaccine produces still the same pustules, the same local and general symptoms, as at the time of Jenner, therefore, the same protective efficacy may be expected from it. If Jenner has overrated that efficacy when he maintained it to last the life time, he must have made a mistake, or drawn too hasty conclusions.

The opponents seek to prove, resting their assertions upon statistics which have been somewhat contradicted, that the protective power of the lymph has decreased, and maintain that it could not be otherwise since the local and general sequels of vaccination have assumed a milder type. It could not be expected to obtain so lasting a protection from the weaker processes as from the stronger vaccinal reaction observed in Jenner's time. Therefore, vaccine should be sought for in its progenitor and regenerated whenever the opportunity offers. Here, opinions diverge again. Some see the source of intensity only in the originality of the cow-pox found; only accidentally found cow-pox should be used for regeneration, say these. Others maintain that the greater energy of vaccine is to be found in the nature of the bovine race, for these reasons they hold to animal vaccine. I do not share the last opinion, although thoroughly convinced of the indispensability of animal vaccine. The protective value of every lymph stock (of the animal as well as the humanized) depends, according to my views, from the quality of its source, from the time that has elapsed since it left that source, and from the precautions used in propagating the lymph, but not from the animal or humanized quality of the lymph.

Nor does the apparent accidental nature of the origin of occa-

sionally found cow-pox offer the guarantee of especially good quality in the vaccine derived from it, for the different species of animals, which may give us vaccine are infected by the virus in a different manner, but never spontaneously, and the vaccine that may be communicated from one kind of animals to another, affects the bovine race with different degrees of intensity. As a rule the cause of cow-pox accidentally found cannot be proved, and it may have its origin in the manner described by Tschamer, or in another way. Sometimes, however, it originates from the hands of milkers that have just been vaccinated or re-vaccinated, and then as retro-vaccine it assumes a mild form. Vaccine originating in horse-pox may also act mildly if this horse-pox has been produced by vaccine in the hands of a vaccinated groom. But if the milker or groom were suffering from variola, we may expect in horse-pox and cow-pox the more energetic effects of variola-vaccine. There is no need of proving that the latter kind of cow-pox was present in Jenner's time; later, retro-vaccine may often enough have been found as cow-pox and gladly received and even have been induced by many premiums.

It is not generally known, although no new observation, that animal vaccine, suffers in the course of time a diminution in the length of the duration of its local symptoms. But the duration with which a virus acts locally on the surface to which it was applied, furnishes a standard of its intensity.

So that we may seek the greater energy of the virus in such pustules which with similar external appearance are active longer and form their scabs slower.

To this we have a proof in the pustules of varioloid and vaccination, which go through their processes much more quickly and do not produce a lymph so active in its generative qualities as variola and vaccine. So that if the pustule is produced quickly with active local reaction and disappears slowly we may conclude that there is present, an intense cause, which will have an active influence upon the body, and protect it efficaciously against new invasions.

The descriptions of newly produced variola-vaccine, as well as the contagionness of the lymph were much greater than in later times. From my own observations I am satisfied that this cessation of local processes does not take place only in the first generations,

but continues later, very gradually, it is true, and in a manner which remains unnoticed by most vaccinating physicians. Such differences do not depend only upon cold or warm seasons or faulty generation, but also upon an actual weakening of the lymph.

This view does not correspond, to be sure, with the much contested opinion of the invariability of humanized lymph. Besides the fact, that we should first consider the question, why humanized vaccine does not produce variola again, we find also in the literature on the subject proofs that it assumes gradually somewhat milder forms if not in the symptoms, yet in the duration of the pustules. Compare the competent labors of *Steinbrenner*, *Bousquet*, *Triard*, *Rigal* and others in *Parola*, *Vaccination*, Vol. I, p. 416, seg. For example: Jenner's pustule required 17 days for dessicating, as long as cow-pox found in 1836 at Passy, which was inoculated on the arms of children. The scabs fell in both cases between the 23d and the 26th day. In 1844 the drying of the humanized Passy pustules took place in 14 days, that of Jenner's pustules which had been propagated 39 years, in twelve days. The latter had lost in these 39 years, five days of their ripening period, the Passy pustules in 8 years had lost three days.

Bousquet is altogether right when he says: He who recognizes no difference between humanized lymph stock, devised a long time ago from cow-pox, or one which has a similar but recent origin, has never inoculated cow-pox, or has been satisfied with the customary visit to the inoculated patient on the seventh day.

But I return to animal vaccine.

I was very much interested in the comparison of my new variola vaccine, with some originally animal vaccine, propagated by myself for seven years, and now already nearly 16 years old. Probably no lymph stock has ever been propagated longer and more carefully than this cow-pox found in 1865 at Beaugency. It was, at the time, inoculated on cows and calves in Paris, closely observed and compared with the pustules of vaccine coming originally from cow-pox which had been in use in Paris before, and had been brought from Naples and had been propagated 8 years (see *Lanoix: Dépaül, Gazette Médicale de Paris*, 1866, p. 164 and 319).

Although Dépaül declares, that he found no difference between the form and period of maturation of the pustule of these two

kinds of lymph, I think I can notice some differences from his definitions and those of Chauveau.

In the first place, Dépaül did not see at all the first three generations of the Beaugency vaccine, so that the more intense local symptoms may have already lost some of their intensity, when he, using vaccine of the fourth generation, did not begin his observations until the fifth. It produced after 3×24 hours small papula, the next day young pustules, which increased in size on the fifth and 6th day, and the drying of which began on the two succeeding days. From the 17th day the pustules began to fall. One after the other, 40 heifers were successfully inoculated. The taking of the virus generally occurred in 6×24 hours after inoculation. From the 28th generation, which matured very rapidly, virus could already be obtained on the third day after inoculation, from the 29th on the 5th, from the 30th on the 7th day. The last ten calves had the best pustules on the 5th day.

Chauveau says (Chauveau, *Vaccine et Variole*, p. 13 and 16) that the 8 years old Neapolitan lymph at that time matured pustules within five days, which increased in size until the eighth day and the scabs of which fell from the 14th to the 20th day. According to Dépaül, the drying began already on the 7th day. This is certainly a difference, for the scabs of the Naples pustules began to fall already on the 15th day, those of the fresh stock, not before the 17th day. Besides, the Beaugency lymph acted with uncommon, almost fearful intensity, in a similar manner then, as that described by Jenner of his cow-pox, while the Naples lymph did not produce such striking symptoms.

During the 16 years that have elapsed since then, the Beaugency lymph has been modified, its pustules run now through a shorter course, they mature in a medium temperature within four or five times 24 hours; on the 6th day they already become purulent, on the 7th day they are somewhat dry and the scabs fall from the 12th to the 16th day. This 16 years old vaccine takes then, now considerably quicker course than the 8 years old Naples lymph, and has, since its own origin, suffered a still more considerable loss, in the energy of its internal symptoms. We shall see also that the period of its greatest activity has been displaced. According to Dépaül, it produced at first, on the 5th, 6th, and 7th day when inoculated

from calf to calf, a fine pustule for almost every incision, once it was even used with good results on the third day, and it was then indifferent, whether it was inoculated with puncture or with incision. When I received that lymph ten years later from Rotterdam, whither it had come from Paris by the way of Brussels, I found the energy of the lymph used on the sixth day from calf to calf, maintained. Since then, it proves to be, on that day, still weaker, and I use it neither for calves, nor for people, when I can possibly avoid it. In the course of time I have experienced more failures after the inoculation of lymph of the fifth day, than formerly, and I cannot ascribe this merely to occasional failure if proper care in inoculation; and the surest results are now obtained with pustules of 4×24 hours after vaccination, then pretty young.

With this, it is not at all indifferent, whether we inoculate with punctures or with incisions, and the unexceptional success of every insertion, is no longer the rule even with lymph of 5×24 hours after inoculation.

Indeed our results in the use of animal lymph for the public, are more satisfactory than those reached by Dépaül, but then we inoculated differently, that is, by means of incisions or scratches. If we inoculated with punctures, as the French did then, our results would fall lamentably short.

I give here a table of the inoculations of calves in the Hamburg vaccine establishment, out of which may be seen, how different the vaccination value of the lymph is, according to the different stages of maturation.

Results of Inoculation on 732 Cases in the Vaccine Establishment of Hamburg, 1878 to 1881.

Inoculation with lymph from the Beaugency stock :	1878			1879			1880			1881			Total.						
	Result.			Result.			Result.			Result.									
	Calves.	Good.	Indifferent.	Bad.	Calves.	Good.	Indifferent.	Bad.	Calves.	Good.	Indifferent.	Bad.		Calves.	Good.	Per Cent.			
1. Preserved between plates.....	4	.....	1	3	9	3	4	2	20	12	.....	.....	9	5	4	42	29	48
2. Fresh from calf to calf.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
On 3d day after inocula.	.....	.....	.....	.....	1	.....	1	.....	.....	.....	.....	.....	1	1	.....	2	1	50
" 4th " " " "	23	20	2	1	32	23	8	1	34	30	1	3	28	24	4	117	97	83	
" 5th " " " "	153	[87 p.c.] [NB. 1]	47	2	123	[79 p.c.] [NB. 3]	30	6	117	[85 p.c.] [NB. 1]	3	4	110	79	[NB. 1]	4	503	351	70
" 6th " " " "	32	[68 p.c.] [NB. 11]	19	3	11	[71 p.c.] [NB. 7]	3	.....	4	[69 p.c.] [NB. 7]	2	1	4	3	1	51	23	45
" 7th " " " "	.....	.....	[NB. 5]	[NB. 1]	2	1	1	.....	.....	.....	[NB. 1]	.....	7	1	3	9	2	22
3. Retrovaccine fresh from the arm.....	.....	.....	.....	.....	2	2	.....	.....	3	3	.....	.....	3	3	.....	8	8	100
Totals.....	212	131	69	9	180	121	47	9	178	128	42	8	170	116	39	7	732	502	68.6
			[NB. 17]	[NB. 1]			[NB. 10]	[NB. 2]			[NB. 9]	[NB. 2]			[NB. 3]				

In explanation of this table, I must add that I consider the inoculation of a calf good, when almost all the pustules reach a satisfactory development, and as an indifferent result when only isolated groups of good pustules are formed. In the column, bad, I have placed the reaction which was altogether incomplete. The mark NB. means that with five calves the probable cause of failure of inoculation lay in the bad state of health of the subject.

In order to condense once more what I have said on the variation of this Beaugency stock, I report: The pustule grows now nearly as quickly as 16 years ago, but it soon gets purulent and the scabs fall off, on an average, four days earlier than they used to. The activity of the contents of the pustules, which formerly was greatest on the fifth, sixth and seventh day, and nearly unexceptionally sure, proves trustworthy now on the fourth and fifth days. On the sixth day the lymph is of little value, and almost so on the seventh day, and then is really not fit to be used.

On the other hand, my variola-vaccine had altogether the same properties as the young Beaugency cow-pox. Absolute energy of the lymph from the fifth to the seventh, and even to the eighth day; uncommonly well developed pustules, with limpid contents until the eighth and later until the seventh day drying slowly, and in the second generation casting their scabs only after 22 days, later from 17 to 18 days. *Ceely's* first variola-vaccine pustule did not come to development until the ninth day, and dried in 13 days. *Thiele* describes the maturation exactly like that of my second generation. *Reiter's* variola-vaccine pustule was destroyed on the sixth day for obtaining virus for inoculation, and *Scrofft* says that his reached its maximum on the sixth day.

From this it will be seen that with minor differences the phenomena of cow-pox and variola-vaccine agree with one another, and I think I can say beforehand, that my new lymph will in course of time run through the same phases as that of Beaugency.

I have mentioned that many authors are of opinion that humanized lymph degenerates, and that, therefore, we must turn to cow-pox or animal vaccine in order to obtain again, as the occasion offers, some efficacious protection. But from what has been said it will be seen that help is to be expected not from animal vaccine, but from originally active cow-pox; that animal vaccine suffers a loss of

energy much easier assignable than the humanized, and that it is, therefore advisable not to lay too much stress upon the old purity (nobility) of an animal lymph stock, but that it should be renewed (renovated) when the occasion presents.

It is true that it cannot be proved with certainty whether a young lymph stock has greater protective value than the older, but we may have a good opinion of it on account of its energetic activity. I hope I may be able to give later, a standard measure for the protective power of vaccine.

As a zealous promotor of animal vaccine, which has become indispensable to me, I will not insist again upon its usefulness, but, in conclusion, I will point out, that it should be regenerated betimes, in order that it may maintain its full energy. To me it seems that animal vaccine needs such regeneration quicker than the humanized.

The retro-vaccine which is less liked for reasons of opportunity and others, should be placed on an equality with an original animal vaccine of greater age, in its powers for producing greater quantities of lymph. With young regenerated animal lymph at one's disposal we can, however, do altogether without humanized lymph, even in cases when most may be expected from the latter, for it acts with more certainty, and may be preserved longer than that of older stock.

Indeed, this regeneration must take place with truly energetic cow-pox. He who accidentally finds cow-pox may judge of its value by the size and duration of the pustules, by the energy of the hold it takes when transplanted upon other cows and by its possible origin from variola. In the latter case it should, for precaution, be conveyed through a few cows before it is used on the human subject. —*Deutsche Vierteljahrsschrift für öffentliche Gesundheitspflege.*

ST. LOUIS, MO.

I frequently prescribe CELERINA when I want to use a reliable compound of celery and coca, and the prescription has given me satisfaction in its results as a nerve-tonic in many cases.

Yours very truly,

C. H. HUGHES, M.D.

Lecturer on Psychiatria and Neurology, Post-Graduate Faculty, St. Louis Medical College, Editor *Alienist and Neurologist*, etc.

CALLED MEETING OF THE COUNTY SUPERINTENDENTS OF HEALTH.

The following letter has been addressed to the Superintendents of Health, and it is very desirable that as full a meeting as possible should be had :

NORTH CAROLINA BOARD OF HEALTH, }
WILMINGTON, N. C., December 18th, 1882. }

Dear Doctor :—Adopting the suggestion of Dr. J. W. Jones, of Wake Forest, the State Board of Health desires to obtain a meeting of the Superintendents of Health from all the Counties in the State, if possible, and trust that you will be able to be present in Raleigh on the Second Tuesday in January.

The Legislature will then be in session, and it is desirable that the law should be so amended as to make the State Board a working organization, and that the Superintendents of Health should have better defined duties.

The State Board suggests that the following, among other items, are matters of importance to secure the continuance of the work in anything like a vigorous manner:

1. The law regarding the Record of Vital Statistics at the annual tax-listing should be amended so that some responsibility for correct returns should be put upon the tax-lister.

2. The salary of the Superintendent of Health should not be fixed, as by the present law, but left to the Boards of County Commissioners and Town corporations.

3. Executive power should be vested in Superintendents of Health in compelling the abatement of nuisances; the isolation of persons sick with pestilential communicable diseases; in directing the sanitary conduct of penal and charitable county institutions, such as jails, poor-houses, and houses of correction. The State Board of Health should be also entrusted with the duty of quarterly examinations of the State Capitol, Insane Asylums, Institution for the Deaf and Dumb and the Blind, and the Penitentiary.

4. Vaccination should be promptly secured by establishing a permanent department, from which vaccine could be expeditiously distributed in time of need. Modified compulsory laws should be established.

5. A modification of the rules for coroner's inquests should be discussed, and the conditions stated in which the Superintendent of Health, as coroner's physician, should be expected to make *post mortem* investigation, and a scale of fees established for the service.

6. A sufficient appropriation should be made for the expenses of the Board. Not less than \$3,000 a year would be enough to promote the work in usefulness. In addition to this, printing should be allowed to the Board.

How to perfect these provisions, and how to forecast the future work of the Board, is the question which the State Board hope to hear discussed by the County Superintendents of Health. Such experience as has been gained by the gentlemen who have labored so hard to promote their county work, will be necessary to our guidance for the future.

Please favor me with a reply to this circular, and signify your intention to be present.

Should you determine not to be present, please have an interview with your representatives in regard to our needs.

Yours, very truly,

THOMAS F. WOOD,

Secretary N. C. Board of Health.

The Secretary would be pleased to obtain the name and address of any physician who is a member of the Legislature, that circulars may be sent at once.

DEATH OF SIR THOMAS WATSON.—The death of this eminent English physician occurred recently. He was 90 years of age. His great work "*Lectures on the Principles and Practice of Physic*" was the text-book for two generations of physicians in England and America. Nothing contributed more to make the study of medicine attractive, or to excite clinical enquiry than the style of his great work.

FIFTEENTH EDITION UNITED STATES DISPENSATORY.

715 and 717 Market Street, Philadelphia, December, 1882.

Dear Sir :—The Fifteenth Edition of the United States Dispensatory will be ready in January, 1883. The editors are Dr. H. C. Wood, Professor Materia Medica and Therapeutics in the University of Pennsylvania; Joseph P. Remington, Professor of Pharmacy, and Samuel P. Sadtler, Professor of Chemistry in the College of Pharmacy of Philadelphia. The revision has occupied about three years, and has been in all respects most thorough and complete embracing the most recent discoveries in Materia Medica, Pharmacy, Chemistry and Therapeutics.

The relation of the work to the United States Pharmacopœia will be fully maintained, whilst the encyclopædic character of the Dispensatory will be developed to the greatest extent. The new Pharmacopœia will be in all its parts fully expounded and discussed, and the most recent non-official medicines, as well as those long out of date, will be carefully considered in the second part of the work.

J. B. LIPPINCOTT & Co.

[From the Medical Gazette.]

I have used S. H. Kennedy's Concentrated Extract *Pinus Canadensis* in some affections of the rectum, vagina and cervix uteri. I have used it considerably diluted, as a vaginal wash, with great success; but I prefer to apply it to the os tinæ on cotton wool, either pure or mixed with glycerine, or glycerine and rose water. Thus applied it should remain intact for two or three, or even four days and then be renewed. In this way I have seen chronic granular vaginitis remedied in a few days that had resisted the ordinary remedies for weeks; and have seen granular erosions, with leucorrhœa, disappear very rapidly under its use. I have not time to do more than call the attention of my professional brethren to this new extract, which I am sure will soon be recognized as a valuable addition to our Materia Medica.

J. MARION SIMS, M.D.

267 Madison Avenue, N Y.

OBITUARY.

JOSHUA COCHRANE WALKER, M.D.

At a meeting of the New Hanover County Medical Association, held in this city, on the evening of the 22d inst., the following memorial and resolutions were read and adopted :

On the morning of the 22d December, calmly as an infant, he slept into eternity. Weary months of encroaching disease had dimmed the vital spark, until death had an easy victory.

Dr. Walker was born in Wilmington, on the 6th day of April, 1833, and so, just ripening into mature manhood and in the height of his usefulness, at the age of 49, he has been called to his rest.

His academic training was under the elder Bingham. He entered the University of North Carolina in 1850, graduating in 1854. Making choice of the medical profession, he entered the office of Dr. Edwin A. Anderson, as a student. He graduated at the University of New York, in 1858. He entered upon his professional career at Fernandina, Florida, the same year, and at the outbreak of the civil war returned to his home in Wilmington.

Full of arduous love for his native State, and appreciating the gravity of the duty devolving upon all her sons, he offered his services and was commissioned as an Assistant Surgeon. He was assigned to the Third Regiment North Carolina Infantry, and served with that body until the beginning of 1863, when he was assigned to duty in charge of the Marine Hospital in Wilmington.

After the war ended he commenced civil practice, and with one interval, when he embarked in other pursuits in Savannah, he continued his work until taken down in August with his last illness.

From the inauguration of the County Board of Health, until his death, he held the position as Superintendent. In 1879 he was chosen a member of the Quarantine Board of the Cape Fear River. Only a month ago he was chosen by the Governor as a Director for the Western Insane Asylum at Morganton.

For the fifteenth time since the dread epidemic of yellow fever of 1862, has the hand of death been laid upon our profession, but no stroke of the insatiable enemy will cause a keener pang of regret than in the death of Dr. Walker.

His was a peculiar mind, seeking always the practical side of his profession, and able to grasp in the maze of theories, facts to use at the bedside. In emergencies he was self possessed, in expedients he was well armed, and in all professional matters conservative. In the practice of surgery he had the tender gentleness of a woman, with the quick eye and resolute mind of an expert.

In days of peril, on the field of battle, he was useful, untiring, unselfish, courageous. The men of his regiment admired his intrepid bearing, and soon learned to know that he was quick to learn to.

mercy's side in opinions affecting their welfare. His friendships were ardent and lasting. No man ever sought the interests of his friends with more unselfishness. In all the years of his professional life he exemplified that gentle courteousness which was but the natural expression of his refined manhood. The poor who came under his care, will remember with what delicate generosity he dispensed comforts to them, beyond the official routine, and they will remember, too, how assiduously he labored far beyond his physical capacity in his attention to them.

Few of his friends realized how greatly he struggled against his physical infirmities in performing work which to them was so easy. Months after he had been seized with the disease which was to destroy his life, he resolutely performed his public and private practice, enduring discomfort and pain, with hardly a murmur.

We come with mournful hearts to pay this our last tribute to the memory of our friend. May God rest his soul in peace !

Therefore, be it

Resolved, That a page in the journal of this Association be inscribed to his memory, and that this memorial and resolution be published in the next number of the NORTH CAROLINA MEDICAL JOURNAL.

Resolved, That the members of this Association attend in a body the funeral of our deceased associate, and escort his remains to their last resting place.

THOMAS F. WOOD, M.D.,

GEO. G. THOMAS, M.D.,

W. J. H. BELLAMY, M.D.,

WILMINGTON, N. C., December 22, 1882.

Committee.



